The New York State

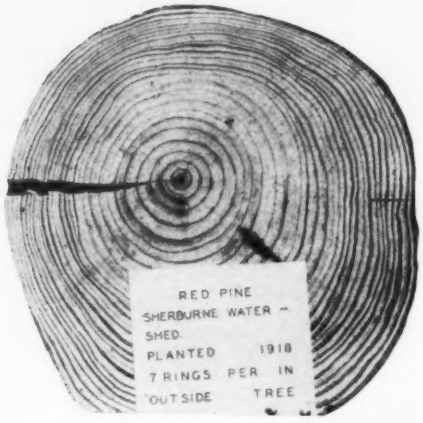
# Conservationist

October-November 1953

State of New York Conservation Department

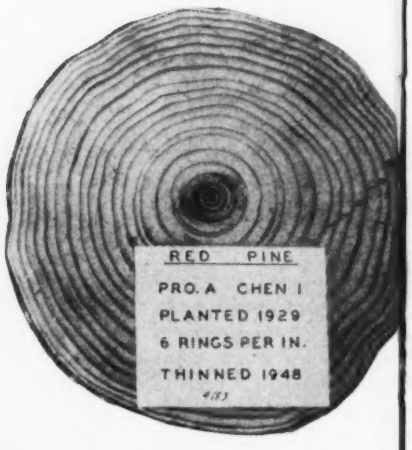
# The story of thinning

*1. Note wide spacing between rings near center. During this period, tree grew freely without competition from its neighbors, but as the crown canopy closed growth rate abruptly declined. Four to five years were required to grow one radial inch in the early ages, but 52 years to grow the last radial inch. The near stagnation was caused by failure to thin at the proper age.*




*2. This tree grew at edge of plantation and consequently received more light, had ample growing space. Note uniformity of growth. It required only seven years to grow last radial inch, compared with 52 years required by tree in photograph 1.*

*3. This tree grew in plantation which was not thinned at time crowding first became evident. Although plantation was thinned in 1949 (31 years from time of planting) no increase in growth is evident. When suppressed for this long, red pine will not respond to thinning treatment.*




*4. This tree grew in plantation thinned at the right time (19 years after planting). Note continued rapid growth —only six years to grow last radial inch.*

*5. This larch grew in unthinned plantation. Note slowdown in growth when competition set in. It required 14 years to grow last radial inch under unthinned conditions (43 years after*

*6. This larch grew in plantation thinned at the right time (18 years after planting). It required four years to grow last radial inch, compared with 14 years required by tree in photograph 5.*

*Thinning pays—providing it is done at the right time. In New York State plantations this appears to be from 16 to 20 years after planting.*

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STATE OF NEW YORK, THOMAS E. DEWEY, *Governor*

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J. VICTOR SKIFF, *Deputy Commissioner*

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CONSERVATION EDUCATION, CLAYT SEAGEARS, *Director of Division*

*THE CONSERVATIONIST*, P. W. FOSBURGH, *Editor*

ROLAND B. MILLER, *Managing Editor*

MICHAEL C. WALES, *Circulation Manager*

EARL McGUIRK, FRED CHAMBERS, *Photographers*

W. I. VAN DER POEL, JR., *Design and Typography*

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### State Forests

The people of the State of New York own and operate two unique holdings involving forested lands. One is the Forest Preserve, two and one-half million acres in the Adirondacks and Catskills, public property on which any kind of forest management is *prohibited* by law. The other is made up of our State Forests, blocks of land acquired by the State and scattered all over it, on which forest management is *mandatory* according to the law. So you will see that the Forest Preserve and the State Forests have little in common—except trees, and the fact that the Conservation Department is responsible for both.

There has been much sound and fury, in this magazine and elsewhere, about the Forest Preserve. But the State Forests have attracted little attention. They deserve a lot more. We hate to pick on the little State of Rhode Island, but our State Forests would cover more than two-thirds of it. Evidently, they represent a *big* investment. But they also represent a pioneer effort, without precedent anywhere in this country, to apply forests and forestry to the solution of a serious problem both social and economic.

Essentially, the problem was and is this: What to do with the five million acres of New York (one-sixth of the State) that was cleared for agriculture and then abandoned as better lands opened up to the West? People—in fact whole communities—were left behind too; what to do about them? How to restore abandoned land to production, so that the wounds on the land itself would be healed, so that the land could produce its maximum contribution toward the support of the people who continued to depend on it—their schools, highways, hospitals, utilities?

Our answer to these problems has been our program for State Forests. It involves putting trees back where The Lord put them in the first place and where, as far as we've been able to find out, nothing else will do as well. When this program was first instituted it was admittedly an experiment that could only be proved by trial and error, an experiment whose success could not be judged solely on the basis of economics.

It appears to be a program that can stand on its own feet, no matter how you look at it.

The trial has been made—over a period of 24 years—and errors discovered and corrected. The results, reported for the first time in this issue, should justify the confidence and hopes which many of us have had all along. No matter what your viewpoint, social or economic, the evidence indicates that State Forests pay dividends.—Editor

# STATE FORESTS

STATE FORESTS, sometimes known as State Reforestation areas and called by most people "The State lands," lie outside the Forest Preserve as established by law. They were established primarily to solve a land use problem of extensive proportions. The laws under which they are acquired provide that these lands, in areas of 500 acres and more, are to be forever devoted to the planting, growing, and harvesting of trees. In other words, they are *production forests* where timber will be produced as a crop, and they should in no way be confused with the 2½ million acres of forest lands owned by New York in the Adirondack and Catskill Forest Preserves.

New York State is 30½ million acres of dirt, trees, rock, and water, and upon this foundation rests the economy of our State and its nearly 15,000,000 people. It has some of the best land found anywhere—and also many acres of land too poor to support agriculture. Early settlements were made on the basis of proximity to avenues of transportation and protection afforded by certain locations. The fear of fever and ague in the lower and more productive lands caused hill lands to be favored very often for farming operations. It is easy to understand that many acres cleared for agriculture should, in light of present information, have remained as forest lands.

As a consequence of having cleared the wrong lands, the abandonment phase of our agriculture started almost as soon as the clearing. People soon recognized their mistakes and moved on for another "try" in the wilderness. The construction of the Erie Canal, the railroads, improved roads, and the opening up of the West lead to a speeding up of land abandonment in New York, with a peak occurring immediately after the Civil war. The hill sections of southern New York lost many of their folks, who left behind them thousands of acres of unproductive cleared lands.

More specifically, the problem of abandoned lands developed in this manner: 4½ milion acres disappeared from active farm operations between 1880 and 1925. From 1880 to 1910 abandonment averaged 60,000 acres per year. It averaged 140,000 acres per year between 1910 and 1920, and during the period 1920-1925 abandonment took place at the rate of 270,000 acres per year—bringing the average for 1880-1925 up to 100,000 acres per year. This went on even during periods of rising agricultural prices. New comers had made second and third tries on the same lands and after using up their capital and credit, had moved off the land. The only conclusion that could be drawn was that a lot of land in New York was not capable of supporting agriculture.

The State College of Agriculture at Cornell became very aware of this situation as early as 1901, when they made their first soil surveys. Other surveys in 1903 furnished additional information on land abandonment. But it was the farm business surveys of 1907 and later that clinched the fact that anyone farming in the abandoned land areas was in for a rough and unprofitable experience. A very thorough survey of the situation, in 1923, showed the trouble to be primarily one of poor soil characteristics. Millions of days of toil and sweat for many families had sunk without a trace of satisfactory returns from these lands.

Utility companies soon became interested in this problem, because they found it unprofitable to extend service lines into these areas; the occupants could not afford to buy sufficient electricity to carry the costs of power line construction. Insurance companies found that their fire losses in submarginal areas were running five times as high as in good farming regions; farm income was not sufficient to keep chimneys in repair and fires were frequent.

Bankers and loaning institutions were discovering that first mortgage losses were running 28 times higher than normal in these areas of abandonment. The maintenance of schools—for as few as two or three pupils—created high school taxes. The cost of maintaining roads to serve a very few families was adding more tax burdens.

The long and short of it was that the man on a good farm was being penalized by the extra taxes required to keep the abandoned sections operating on a loss basis. Here was a millstone around the neck of the rural economy, a millstone that not only was sinking those trying to farm these lands, but the entire economy of some counties. The problem was too huge to be ignored, although some suggested just that. The impact of the situation was felt throughout the State, with the situation being most acute in the Southern Tier counties and in the northern portions of the State outside the Adirondack Preserve.

The first real attempt to solve the problem of abandoned lands was made in 1927 and 1928 by State Senator Charles J. Hewitt, of Locke, N. Y. Senator Hewitt proposed a bond issue of $100,000,000 to purchase and reforest the abandoned land, which, it was agreed, would support forest growth. The bond issue failed to receive approval, but it did create so much interest that the 1927 Legislature appointed a committee to study the situation. This committee of the Legislature determined that the State should attempt to solve the abandoned land problem by embarking upon a program of land purchase and reforestation. $120,000 was made available by Chapter 195 of the Laws of 1929 for this purpose and the act became known as the State Reforestation Law, and added Section 69-a to the Conservation Law. The burden—6,000,000-7,000,000 acres of abandoned lands—of course could not be lifted by this small appropriation; but a start had been made. The first areas for reforestation were purchased in Otsego, Cortland and Chenango counties, and the first planting took place on Cortland Area No. 1 in the Town of Scott. As a matter of information you should know that the law stated that an area bought for reforestation could not be less than 500 acres in extent.

To implement the program now in operation, a plan in the form of a constitutional amendment was developed. The amendment provided for appropriations over a 15-year period of $20,000,000 for the purchase and reforestation of 1,000,000 acres of abandoned land. This amendment was passed by the Legislatures of 1930 and 1931 and approved by the People in the fall of 1931. Upon this background rests the present program of State Forests.

These questions now naturally arise: *1. How far has the original program progressed? 2. What is being done now on State Forests? 3. What does the future hold?*

## 1. How Far Have We Gotten?

$1,116,250 was appropriated between 1929 and 1931. Additional tree nurseries were established to grow the many millions of trees needed for such a huge venture. But perhaps the most important feature is that the Conservation Department was enabled to set up ten forest districts, manned by trained foresters, to handle the purchase of lands, the tree planting, and their care. This was the start that today gives New York the pretty complete statewide coverage of experienced forestry "know how" that is available to private forest owners through the Forest Practice Act. It has given the Conservation Department, too, a highly trained group of professional foresters, capable of handling most if not all the forestry problems of the State, throughout the State. For the past 25 years, these men have lived and grown up with one of the largest forestry projects of its kind. They have learned a lot.

The Conservation Department was at all times ahead of the scheduled program of land purchase and tree planting. There was never any question but that it could fully accomplish the job assigned it by the mandate of the People in 1931. The organization was functioning, the land was available at prices of $4 per acre or less, and the necessary changes had been made in the laws to allow land to be purchased in the Forest Preserve counties, but outside the Adirondack and Catskill parks. Only continuing appropriations were necessary to assure reaching our goal of 1,000,000 acres by 1944.

But 1933, the year of depression, saw a turning point; the normal appropriation of $1,200,000 for that year was reduced to $400,000. Constitutional provisions notwithstanding, cuts in appropriations were made each year after 1933. Sufficient money was available for tree production in the nurseries, but little was available for labor to plant the trees. And land acquisition was reduced below the constitutional provisions. Luckily, however, the program of C.C.C. Camps came into being at this low point in our fortunes, and from 1934 to the end of C.C.C. Camps in 1941, all trees on State Forests were planted by the "C.'s," as they were called. They made an enormous contribution to our forestry programs, and to tree planting in particular. Because of the large acreage of State Forests, New York received a generous allotment of these camps. Money saved on tree planting was applied to additional land purchases, and a program of considerable extent was carried on despite a shortage of State funds.

As of 1953, State Forests (purchased, remember, to solve a land problem) cover 553,000 acres. Actually very little land has been acquired during the past two years and no funds are available for land purchase in 1953. This acreage represents our achievements since 1929. Because of adverse economic conditions we have not been able to reach the original goal of 1,000,000 acres set for us. But we *have* reforested all but approximately 34,000 acres of the plantable land purchased, and the number of trees planted is one of the outstanding jobs done in this country: 303,498,950 trees. If planted six feet apart, that would make a strip roughly 15 trees wide completely around the world. But they are all in New York, where they are doing a swell job of producing timber as well as giving us many other benefits. In round numbers we have planted 62,500,000 white pine, 98,000,000 red pine, 18,000,000 Scotch pine, 3,000,000 jack pine, 62,000,000 Norway spruce, 30,000,000 white spruce, 11,000,000 European and Japanese larch, 5,500,000 white cedar, 2,000,000 balsam, and 12,000,000 miscellaneous conifers and hardwoods. A huge job, accomplished under adverse conditions, but one in which all can take pride.

These trees are pretty well scattered around the State, as shown by the map and by the following list of acreages owned by the State in the districts:

District No. 1 (Delaware, Otsego, Schoharie) 59,740 acres; District No. 2 (Broome, Chenango, Madison) 91,835 acres; District No. 3 (Cayuga, Chemung, Cortland, Onondaga, Tompkins, Tioga) 47,111 acres; District No. 4 (Alleghany, Livingston, Schuyler, Steuben, Yates) 81,033 acres; District No. 5 (Cattaraugus, Chautauqua) 41,747 acres; District

No. 6 (Jefferson, Lewis, Oswego) 110,155 acres; District No. 7 (St. Lawrence) 45,686 acres; District No. 8 (Herkimer, Montgomery, Oneida) 41,549 acres; District No. 9 (Clinton, Franklin) 24,520 acres; District No. 10 (Fulton) 1,264 acres; District No. 11 (Washington, Saratoga) 1,833 acres; District No. 12 (Albany, Greene, Rensselaer) 7,422.

## 2. What Is Being Done Now?

This phase of the development of your State Forest program dates back to 1945. Our present State administration realized that many of the plans and activities on State Forests had of necessity been curtailed during World War II. Plantations established in the early Thirties under the original Hewitt Bill and by C.C.C. were reaching the age where it was necessary to thin out the trees to keep up growth rate. Truck trails needed overhauling, sluices were in need of replacement. Several thousand acres of lands purchased just before the war had been left unplanted.

So many jobs necessary to bring State Forests up to peak productivity were awaiting. In recognition of this situation the Conservation Department was asked to submit plans and programs covering such work to those in charge of State planning and budgeting. These plans, made in great detail, won approval, and the so-called post-war phase for State Forests became an actuality in July of 1946.

The timing of this program was nearly perfect. Money and men became available at about the same time—and just when State Forests needed them both. Thousands of acres of conifer plantations have been thinned out. This is similar to weeding your garden. Poor trees are removed and space is made so that the better trees can develop and grow properly. Plantations, by the thousands of acres, have been pruned of branches up to a height of 12-16 ft. to produce high quality lumber, free of knots. Millions more trees have been planted. Hundreds of waterholes for fire protection have been cleaned out and refenced, and many new ones constructed. All of our truck trails have been put in first class condition. These truck trails, incidentally, are good shale and gravel roads, with stone subbase, and good drainage, and not only give us excellent access to State Forests for fire protection, but also make up an excellent system over which wood products can be transported.

Truly the post-war phase, running from July, 1946 and continuing at the present time, has been a most satisfying one. In it we have entered the management phase of forestry on State Forests, as contrasted with the establishment portion of the Hewitt program from 1929 to 1941. The plantations now have begun to take on the appearance of forests, with trees whose diameters run as large as 10 inches (for larch), and heights of 40-50 ft. are not uncommon. Wolf, weed, and cull trees have been removed from natural hardwood stands. Our youngsters are growing up. Many hundred thousands of acres of barren lands are now cloaked in beautiful trees, and back have come the deer, the snowshoe rabbit, and the partridge. (We hear of bear, bobcats, black panthers and other strange fellows, but we can't vouch for them.) A half million acres of tortured lands that should have remained in forest is comfortably back again where the Lord wants it to be, and on the face of the earth there is peace and quiet where man struggled in vain just a few short years ago.

## 3. What Does the Future Hold?

All this work would be for naught if we dropped it here. We have made a good beginning—of about 25 years. That, however, in the life of the forest is just a start, a start that can point the way and give up a few answers to the Forester. In order to get those answers, and make adequate plans for the future of State Forests, considerable digging for facts was done in District No. 2 (Broome, Chenango, and Madison counties).

In the Southern Tier, on an acreage of 91,835 have been planted over 70,000,000 trees, or roughly 25 per cent of the trees planted under the State Forest program. Chenango County, one of those making up this district, is 13 per cent owned by the State as a result of the purchase for State Forests. It leads in the number of trees planted in any one county.

But back to the digging for information: When our present State administration made funds available in 1946 for rehabilitation of facilities on State Forests and deferred thinning and pruning operations on plantations, we decided that here was a wonderful opportunity not merely to get needed work done, but to get some records. We wanted to know what we had in the way of growing stock in the plantations, and what was growing in the natural hardwood stands.

These embryo forests were old farms, and in addition to old meadows and pastures, each farm had some kind of a natural hardwood lot—some were fair, many poor, and a very few could be called good. One could hardly expect good woodlot management from landowners struggling to eke out a living on submarginal lands; the woods took a beating along with the rest of the farm. We wanted an inventory, so we could make proper plans for the management of these State Forests. Some 7,600 acres of natural hardwoods had been treated by improvement cuttings during the days of C.C.C. Camps in District No. 2. As the work of thinning and pruning and improving went along after July 1946 with post-war funds, much information was gathered on 10,000 acres of conifer stands thinned and pruned, and on 8,000 acres of hardwoods improved. At the time that the inventory work was being done, volume tables for various species of conifers 16-20 years of age were prepared and growth studies of cross sections of cut trees aided us in finding out how the plantations and hardwoods were doing.

Our big interest, of course, was to learn whether the Conservation Department could afford to practice silviculture on its holdings. Would the dollars spent on thinning and pruning be returned? Would there be any interest on the investment? Prior to 1946 our problem had been to solve a land use situation. We knew we could plant trees and that they would grow. Now we wanted to

get down to brass tacks and get some answers in dollars and cents. From 1946 to 1953 when post-war funds have been available, we have only been able to care for a small portion of our State Forest plantations and natural stands, and somebody would be entitled to ask pointed questions about yields and returns if we asked for more funds to carry on silvicultural work on untreated State Forests. Too many predictions on such matters have been made on the basis of a few small study plots. We wanted to get the figures on a large enough base to give a true picture, under actual day to day working conditions.

We feel we have such a base. We feel that 10,000 acres of work in conifers and 15,000 acres of fact-gathering in treated hardwoods has given us some answers, and developed methods and techniques for doing the job on a large scale. And the Conservation Department *has* a large scale problem on its hands now as the result of 25 years of planting trees on State Forests.

To check the information gathered on State Forests, studies were made on much older plantations (40 years and older) of various conifer species. Studies made at the N. Y. State Ranger School were reviewed. Information was collected on old natural stands of both red and white pine as a check on results on State Forests in Dist. No. 2.

Many interesting things developed as we studied the new forests. Foresters knew that stagnation of growth takes place, but the suddenness of the slowing down of a tree's diameter growth becomes almost dramatic at times: Wait too long to thin a plantation and it is almost as if life ceases, especially in some species. Red pine in an average stand slows down in District No. 2 at about 16 years of age, depending of course on soils, moisture, drainage, etc. It normally will put on 6 rings of wood to the radial inch, or increase in diameter about 2 inches each six years. If left unthinned for as much as 40 years the growth rate drops to as low as 56 rings per radial inch. On such a plantation you are not only losing money; you have trees that will never recover a good rate of growth, even if you do finally thin them. They've lost their bounce.

Spruce (white and Norway) hits its critical period at 25 years. Larch, both Japanese and European (one of our fastest growing plantation trees) gets into trouble shortly after 12 years of age if you neglect to thin. We have quite a lot of information on plantations, how they grow, when they slow, when you should prune, and methods for doing the job. Perhaps later we can go into more detail on that, but meanwhile we just want to give you a peek at a few significant spots in the picture. Considered together, they make it clear that there's a lot of work ahead, and work that must be done at the proper time if our time and expenditures during the first quarter century of the State Forest program are to be returned to the People of New York with interest.

And that brings up the big question: "Will this State Forest program pay off?" There is always the possibility of some new disease wiping us out, but that doesn't seem likely. Fire is always just one careless person away, but so far our fire losses in plantations in District No. 2 have been almost nil. So the only reasonable answer seems to come from facts and figures based on several thousands of acres of plantations.

Red pine looks like the best money maker at present, if properly managed. (Remember, proper management is the key to success in the whole program. Without it you will be very lucky if you or your children make a cent on the plantations you may establish.) Of course plantations have other values, but basically most folks like to make a dollar, and this red pine in merchantable thinnings and final crop should yield you somewhere near 70,000 board feet per acre over a 70-year period. Your expense may vary from ours. We capitalized everything—land cost, title costs, surveys, protection from pests and fire, planting stock, planting costs for labor, taxes, thinning and pruning at 3 per cent, and the return is about 4½ per cent on the investment, under our conditions.

Spruce should produce between 50,000 and 60,000 board feet per acre on our managed stands over a 70-year rotation. It shows a net income per acre of about a dollar and a half less than red pine. Perhaps, as more spruce are sold for Christmas trees, the gap may close between returns on red pine and spruce.

Larch shows that under management it will produce from the commercial thinnings and final crop over 50,000 board feet per acre. Since this should be produced during a 55-year rotation, larch is a good bet, and as more people get acquainted with larch it should enjoy a better market. It is acceptable as a substitute for spruce in the Kraft pulp process, if you are near enough to such a pulp mill to deliver the wood economically. It makes a beautiful job when applied to walls as panels. Really looks better than pine. Anyway, it's not a tree to be underestimated and it sure gives you a lift to watch it push skyward at a remarkable rate.

White pine, because of its weevil troubles here in the Southern Tier, yields about half as much net per acre as red pine or spruce. If you are a real dyed-in-the-wool white pine fan you can try it, but grow it with some other tree as a nurse crop in the overstory and let *Pinus Strobus* sneak up in the protection of another species that overtops it. Watch it very carefully and at the proper time release it, and then you'll have some fairly straight trees. But don't put all your eggs in the white pine basket if you live in Broome, Chenango or Madison counties.

We could go on. There are so many avenues to explore, so many possibilities to discuss. But to sum up, our studies in District No. 2 indicate a net profit to the State from its plantations and natural stands, in the three counties mentioned, of over $50,000,000. Another way of putting it would be to say that the profit from operations in District No. 2 will pay the costs for all further cultural operations on State Forests throughout the State—and leave a good hefty profit down here. Translate the State Forest product values into their final value in commerce to the ultimate consumer and you can only arrive at one conclusion: The State of New York has created an asset of millions of dollars out of what was a pressing land problem.

Remember too that there's a lot more of this same land around—maybe it's one of our best assets. Right now, however, our big problem is giving proper management to what we have, and it seems only sensible that this job be tackled first. Maybe the next generation of cub foresters can start in on another half million acres like the "five old men" —Hick, Baker, Kennedy, Bowlby and Dobbins—did a quarter century ago.

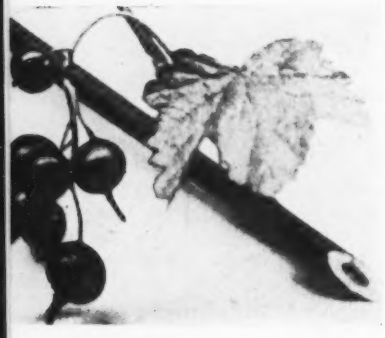
—Charles Baker,
*District Forester, District 2*

*Elderberry*, Sambucus canadensis: *Stem pith white; fruits blue-black Sept-Oct: one of best fall foods for all wildlife; makes good wine too.*

*Poison Sumac*, Rhus Vernix: *White berries Sept-Mar; important winter food; found in wet, swampy spots; causes skin rash.*

# Fall foods for wildlife

*Smooth Sumac*, Rhus glabra: *Red, smooth fruits Sept-March; good winter food.*



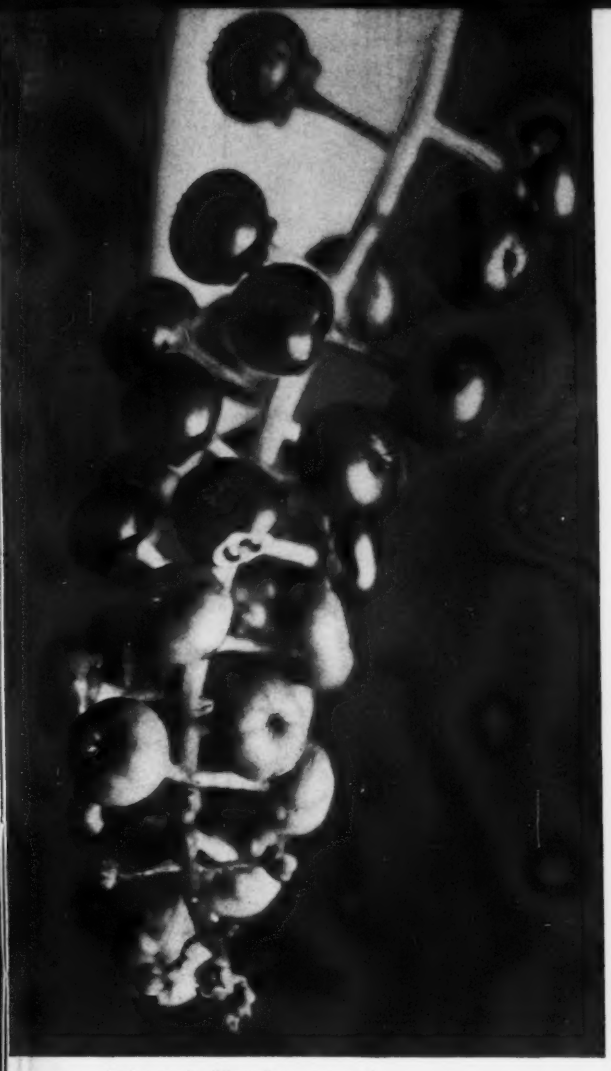
*Currants*, Ribes spp.: *Fruits red or black Aug-Oct; valuable wildlife plants; some commercially sold.*

*Blackcap Raspberry*, Rubus occidentalis: *Fruit black July-Sept; berries, stems, leaves eaten by many birds, mammals.*

ON these and the following three pages we have a collection of photographs intended to illustrate one short chapter in the story of how Nature takes care of her children. These children, from mice to bears, lead a very curious hand-to-mouth existence about which the best biologists admit they know very little. They are always trying to learn more. But our own evolution has separated us from the mice and the bears to such an extent that the job of the inquiring and sympathetic biologist has become very difficult indeed. If we ever had a common language, it is gone now.

In the fall, however, certain relationships between Nature and her children become as obvious as the scarlet fruit of the hobble bush; to discover them, all you have to do is look around. You will see that this is the season when Nature makes up for the hard times of other seasons—and fattens her children for hard times ahead. For us, this is the season of harvest and Thanksgiving. We hesitate to speak for the grouse or the deer, the mouse or the bear, but we suspect they feel the same way.

Each Fall is different, however. Some years Nature produces abundantly, some years the harvest is meagre. *We* can survive these fluctuations. But for wildlife, a rich harvest or a lean one is often a matter of life or death, easy Winter living or starvation, healthy or poor Spring breeding stock.



*Pokeweed*, Phytolacca americana: *Dark purple berries Sept-Nov; important fall food for songbirds, game birds and mammals; moist spots.*

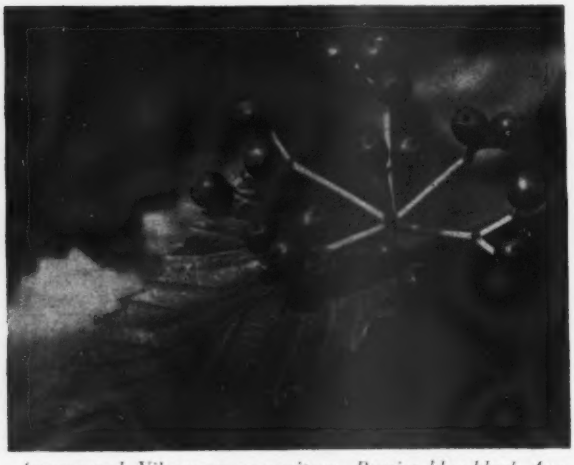
*Hawthorns*, Crataegus spp.: *Fruits red Aug-Dec; make fine ornamentals; thorniness and dense foliage make excellent nesting sites; important plant; fruits make jams, jellies.*

*Summer Grape*, Vitis aestivalis: *Fruits blue-black Sept-Dec; used extensively by wildlife; good cover & nest sites.*

*Chokecherry*, Prunus spp.: *Wild cherries and chokeberries are very important wildlife foods; prolific; found in hedgerows and woodland borders.*

*Highbush-Cranberry*, Viburnum trilobum: *Fruits red Sept-Jan; fair wildlife food; good ornamental.*

*Blackberry*, Rubus allegheniensis: *Top ranking summer and early fall wildlife food.*



*Arrow-wood*, Viburnum recognitum: *Berries blue-black Aug-Oct; good wildlife plant; fine ornamental too.*

*Alternate-leaved Dogwood*, Cornus alternifolia: *Our Dogwoods produce much food.*

*Multiflora Rose*, Rose multiflora: *Hips red Sept-Dec; good winter food; used extensively in habitat restoration programs.*

*Greenbrier*, Smilax rotundifolia: *Blue-black berries Sept-Jan; important winter food; provides good cover.*

*Shadbush*, Amelanchier canadensis: *Flowers white, berries red June-July; fruit, twigs, leaves used; important food.*

*Acorns*, Quercus spp.: *Very important mast food; used by many songbirds, mammals and game birds including waterfowl.*

*Butternut*, Juglans cinerea: *Used by mice, chipmunks, squirrels; good ornamental, farm pond or hedgerow tree.*

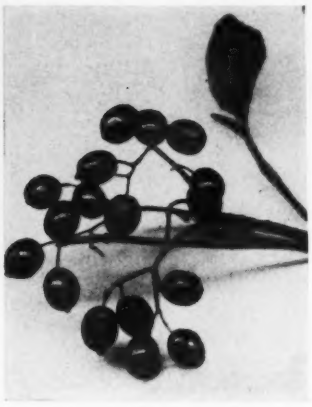
*Bunchberry*, Cornus canadensis: *Our smallest Dogwood; flowers green-white, fruits red Sept-Jan; moist woodlands; used mainly as emergency food.*

*Bayberry*, Myrica pensylvanica: *Leaves are aromatic, fruits grayish white, waxy Oct-Jan; important food; used in New York extensively in wildlife habitat restoration projects.*

*Beechnut*, Fagus grandifolia *(above) and Hickories* Carya spp. *(below) are very important wildlife trees and with oak, maple and elm produce our more important mast foods. Woodducks, doves, songbirds, grouse, pheasant, and many mammals use fruits, twigs, buds in fall, winter and spring.*

*Mapleleaf Viburnum*, Viburnum acerifolium: *Black fruits Sept-Jan; good wildlife food; found in woods, hedgerows.*

*Witch-hobble*, Viburnum alnifolium: *Fruits red Sept-Dec; upland woods; used by songbirds, grouse, pheasant, fox, wood rat, chipmunk, deer, squirrels.*



*Nannyberry*, Viburnum Lentago: *Fruits black Sept-Feb; woods, hedgerow or ornamental plant; provides valuable food & cover.*

**All photos by Nick Drahos**

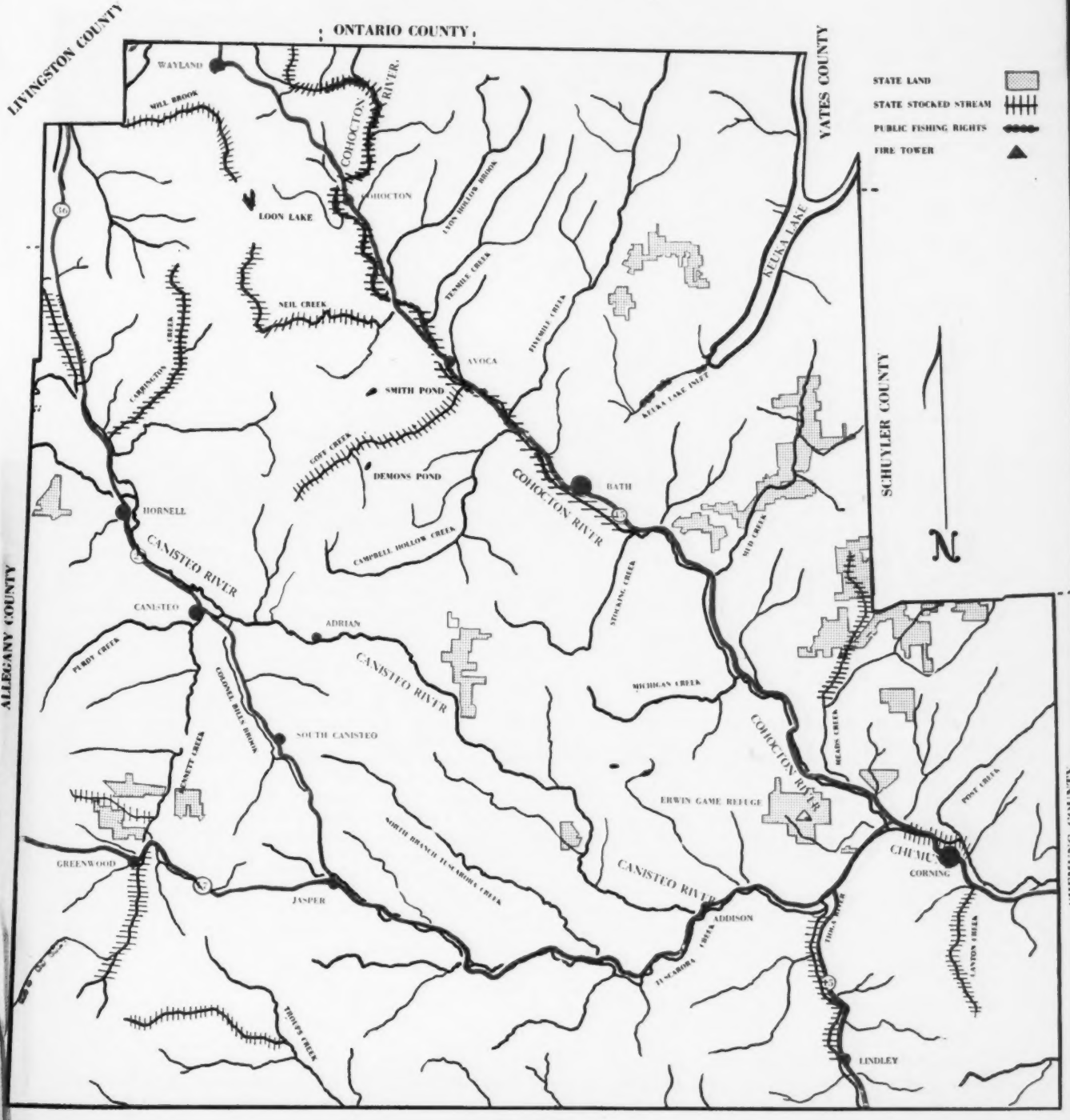
*Partridge Berry*, Mitchella repens: *Trailing shrub, paired white flowers; moist woods; emergency food for all woodland wildlife.*

*Mt. Ash*, Pyrus americana: *Fruit orange-red Aug-March; fine ornamental, grows to 15 feet.*

*Snowberry*, Symphoricarpos albus: *White fruits Sept-April; leaves, twigs, fruits eaten; provides good nesting cover, winter food.*

*Large Cranberry*, Vaccinium macrocarpon: *Fruit red Aug-Dec.*

# Steuben County



# Law of averages in deer hunting

**by George H. Lesser**

*Don't say "Game Hog:" It took me 30 years of Adirondack hunting to get these 26 bucks and two bears. I drew a blank for four seasons.*

*Dear Mr. Fairshot:*

*I am a young married man and have a lovely wife, but also have another problem. For the last three years I have been hunting deer in the Adirondacks and haven't got one yet, although I missed a nice buck last season. My wife says if I don't get one this year I must quit hunting deer and hunt for easier game; she says I spend too much for equipment, and waste too much time trying to get a buck. Her mother agrees.*

*Can you give me a few tips, and tell me how long it takes to get a buck in the Adirondacks? I am anxious to shoot a buck—and avoid domestic trouble at the same time.*

*I. N. A. Quandary.*

My dear Mr. Quandary:

It is unfortunate that you have broken no speed records in getting your buck. Your wife has concluded that your interest in deer hunting has produced for her a rival more deadly than another woman. It is flattering to have you seek my advice, and I'm glad to offer a few hints based on 30 years' experience with Adirondack whitetails.

You say you missed a buck. That's nothing at all, and don't let it worry you. I've missed lots of them—and it's a good thing that we all miss from time to time or there wouldn't be many deer left.

First, with regard to spending the large sum for equipment, you just don't need much equipment to hunt deer. A good comfortable outfit of clothing (easy footwear especially)—and see to it that you wear at least one garment of red. Your license, of course; map, jackknife, your watch, two good compasses, and a large supply of matches wrapped in waxed paper so they won't get wet. As far as guns are concerned, any modern rifle of sufficient caliber will do, but be sure you learn how to shoot before you start hunting. Remember it's the man behind the gun, rather than the gun, that gets results.

If your lovely wife knows her stuff she will provide you with a good picnic lunch, and start you off with a smile and the necessary "moral support." There is nothing more distracting to a deer hunter than an exchange of "uncomplimentary remarks" in the kitchen before leaving; you've got to have a clear mind and conscience. The things you *don't* need will surprise you. For example, a telescope sight. You don't need one—all the deer I've shot were within 100 yards.

There are really only two styles of deer hunting in the Adirondacks. The simplest and most common is driving, and for that you will have to know little, excepting how to shoot straight and how to take orders. Unless you are of the executive type, somebody else will impose his will upon you and you will watch where you are assigned, or wander and wonder through the shrubbery, doing as the man tells you. Later on, experience may advance you to the position of captain.

As opposed to driving, still hunting provides the opportunity to hunt on your "own hook" and requires a good knowledge of the country, much patience, self confidence and concentrated attention. Some writers call it the "art" of still hunting. But the truth is, you just walk around slowly and quietly in good deer country until the critical moment, and then shoot to kill. Don't get the idea that it is difficult—the actual hunting isn't—but when you've hit and killed far back, then you find yourself in possession of a buck and also a burden. One procedure is to come out and ask a friend or relative to go back and help with the transportation. It is then you learn of your ability to influence people; usually at such a

time they always have other very important things to do.

You ask how long it takes to bring down an Adirondack buck. Now that is a darn good question, and the only way I can answer it is to draw on my own experience and records. The good old law of averages always works—ask any insurance man. Without making a chart which might resemble an income tax form, let me point out that I've hunted in the Adirondacks for 30 consecutive years to kill 26 bucks and two bear. I consider myself a fair shot and an average hunter and using both methods—that is, driving and still hunting—this is the way it figures out:

My records show the time spent on each deer. Some were taken the first day out, others took many more days. The longest stretch without a deer was 27 days. Four of the years I missed out entirely, but counted the time in anyway. It added up to a grand total of 253 days to bag 26 bucks. Divided, that amounts to 10 days hunting for each trophy. In this same time, Lady Luck threw in two bear for good measure. About 6 hours per day is average hunting time—which makes 60 hours for each buck.

Let's go further with this average business: The walking averaged 7 miles per day, which, multiplied by 253 days, shows 1,771 miles of walking to secure the 26 bucks and two bear. That's a long stretch, but of course it was all a pleasure and I just wish I could do it all over.

Far be it from me to confuse you; I just want to prove to you and your wife that it's only a matter of time before you get a buck. And when you're on the trail of the whitetail you are hunting the finest game animal of them all, and no amount of time could be considered wasted when you're pursuing him in our Adirondacks, buck or no buck.

I am sending you a picture of the heads that I have taken in the past 30 years, and the two bear. I am a taxidermist, and I've mounted them all. A unique record, I think. You will note that they run all sizes, from spike horns to the jumbos. If you keep on hunting the law of averages will catch up with you, as it has with me. Keep going and good luck.

If you want more information, get the book, "Whitetailed Deer," by William Monypeny Newsom (Charles Scribner's Sons). How very well I know that the poem it contains is true:

*You can hunt the world over for trophies—*
*Far back of beyond you may go;*
*But one day you'll come back*
*To follow the track*
*Of the whitetailed deer in the snow.*

Sincerely yours,
Mr. Fairshot

# Life at a deer checking station

DEER checking stations provide the connecting link between the hunter in the field and the game technician in the laboratory. By means of these stations, information has been collected which not only has greatly increased our knowledge, but has resulted in many changes in our whole deer management program. Hunters are not obliged to stop at these stations. But those who do stop and permit their deer to be examined make a positive contribution toward better management and better hunting.

In the decade that deer checking stations have been operating, we've accumulated many statistics on antler beam diameters, on canon bone lengths and diameters, on deer weights, on the number of antler points, and on reproductive tracts of does. We've found out that in our three major regions—the Adirondacks, the Catskills and the Southern Tier—reproductive rates are different, with the highest in the Southern Tier where does can breed when they are six or seven months of age; that the peak breeding periods for deer are different in each region, with the peak in the Adirondacks coming between Nov. 10-16 and a week later in the Southern Tier and the Catskills; that the number of points a deer has (or the diameter of the antler at its base) cannot be used to tell the age of deer; that there is a great difference in size and age of the deer found in each region (Southern Tier deer on the average are younger and larger than those in the Catskills or Adirondack regions); that the most frequent number of points (of the deer checked) is 8; that climate, topography and food make great differences in the life expectancy of deer in the regions. (It has been estimated that the average life expectancy of a deer *unmolested* by hunters is between eight and nine years. The life expectancy of Southern Tier deer is 1.2 years; in the Catskills, about 1.6 years; in the Adirondacks, about 2.0 years.)

So you see, deer checking stations have enabled us to understand more about the deer in our various regions. They've given us information necessary for deer harvest recommendations, allowing us to predict more accurately how much breeding stock is going to be left for the next year. Thus, we can recommend shorter or longer deer seasons, and when does should be harvested.

We hope our checking stations continue to give us more important facts and statistics. Those of us who operate these stations work long hours—and feel that our time is well spent.

But although we take our work seriously, there are plenty of people who break up the routine and make life interesting:

One beautiful day last October, a party of five deer hunters returning from

the woods stopped in just to chew the fat and ask some questions. No buck, however; just bull. We told them to stop in again on the forthcoming week end, and they did. Still no buck. The last week end of the season was different; the same party went howling by the station, horn blaring, with a buck strapped on the fender. Then they turned around and came back again in the opposite direction. About the fourth trip past the station they stopped, and we discovered that the buck was a G. I. blanket filled with grass, and G. I. jacket shaped into a head, with a forked limb stuck out of each sleeve representing the antlers. Such is life at a deer-checking station.

Did you ever see a buck tied on to a motorcycle? Or a buck on the fender of a 20-ton truck? Well, we have. The man on the motorcycle had gotten a deer in the Adirondacks and in order to take it back to New York City had wrapped the carcass around the buddy seat and had to wind himself around the rump and legs of the deer and ride between the antlers. The man with the 20-ton truck was a hunter whose business interfered with his hunting. So he solved that problem by carrying a gun with him during the deer season. One day he happened to spot a buck in a field alongside his route, jammed on the brakes, stalked the buck and got him.

At South Wales a couple of years ago two big men drove into the checking station in a little Crosley. They asked Jack Tanck if he wanted to check their buck. "Sure," Jack said. "Open the glove compartment and I'll be glad to check your buck." But the fact is that these characters had a 10-point, 1½-year-old buck stowed in their car. Probably the only reason they could get it in was that they packed it into the back seat while it was still warm and flexible. But Tanck advised them that they would probably need a can opener to get the deer out by the time they got him home.

One time we had a man and wife watch our deer-checking operations for about half an hour. Finally the woman got out and asked: "Why are some of these deer red and others gray?" The deer checker replied: "It's probably inheritance; same as in humans, some women are blondes, some red heads and others brunette." "Mr.," she said, "I asked you a civil question and I expect a civil answer." It seems she was a peroxide blonde.

Then there was the old couple that dropped into our station in a dilapidated car. The old gentleman at the wheel leaned over and pointing at his wife said: "Please check the teeth on this old doe and tell me how old she is."

WE'VE been operating deer checking stations since 1941 (with the exception of 1942)—a total of 11 years. This year will make it an even dozen. In that time we've aged about 22,000 deer. The heaviest weighed 265 lbs. (dressed) and the lightest was a 1½-year-old buck weighing 77 pounds. As to age, the oldest deer checked by us was a 12½-year-old buck. However, we do have the jaws of one deer which we estimate to be 16½ years old. As far as we know this is the oldest whitetail recorded from the wild.

Some bear are checked every year, and the largest that has passed through our stations was a 459-pounder (live weight). Judging by what we hear about bear populations, a lot more will come through this fall.

—C. W. SEVERINGHAUS

### Deer checking stations

Unless something unforseen happens, deer checking stations will be operated at the following locations this fall:

*ADIRONDACKS*

1. Alder Creek, ½ mile N. of Village of Alder Creek on Old Forge Rd. (Oneida County); 2. Lake George, 4 miles So. of Village of Lake George on Route 9 (Warren County); 3. Fargo, near junction of Routes 26 and 3 near Fargo in Jefferson County.

*CATSKILL*

1. Central Bridge, on Route 7 east of the Village of Central Bridge (Schoharie County); 2. Wurtsboro, on Route 17 just southeast of Village of Wurtsboro (Sullivan County); 3. Highland, at junction of 9W and 55 at traffic circle (Ulster County); 4. Deposit, on Route 17 just east of Village of Deposit (Delaware County).

*CENTRAL AND WESTERN*

1. South Wales, in Village of So. Wales on Route 16 (Erie County); 2. Horseheads, in Village of Horseheads at junction of Routes 13 and 14 (Chemung County); 3. Arnot Forest, at Cornell Experimental Forest near Village of Van Ettan (Chemung County); 4. Painted Post, on Route 17 just west of Village of Painted Post (Steuben County); 5. Connecticut Hill, on Connecticut Hill Game Mgt. Area near Village of Newfield (Tompkins County); 6. Gowanda, on Routes 18 and 62 near Village of Gowanda; 7. Geneseo, at junction Routes 20a and 63, south of Village of Geneseo (Livingston Co.).

THE PROBLEM OF

# Zoning

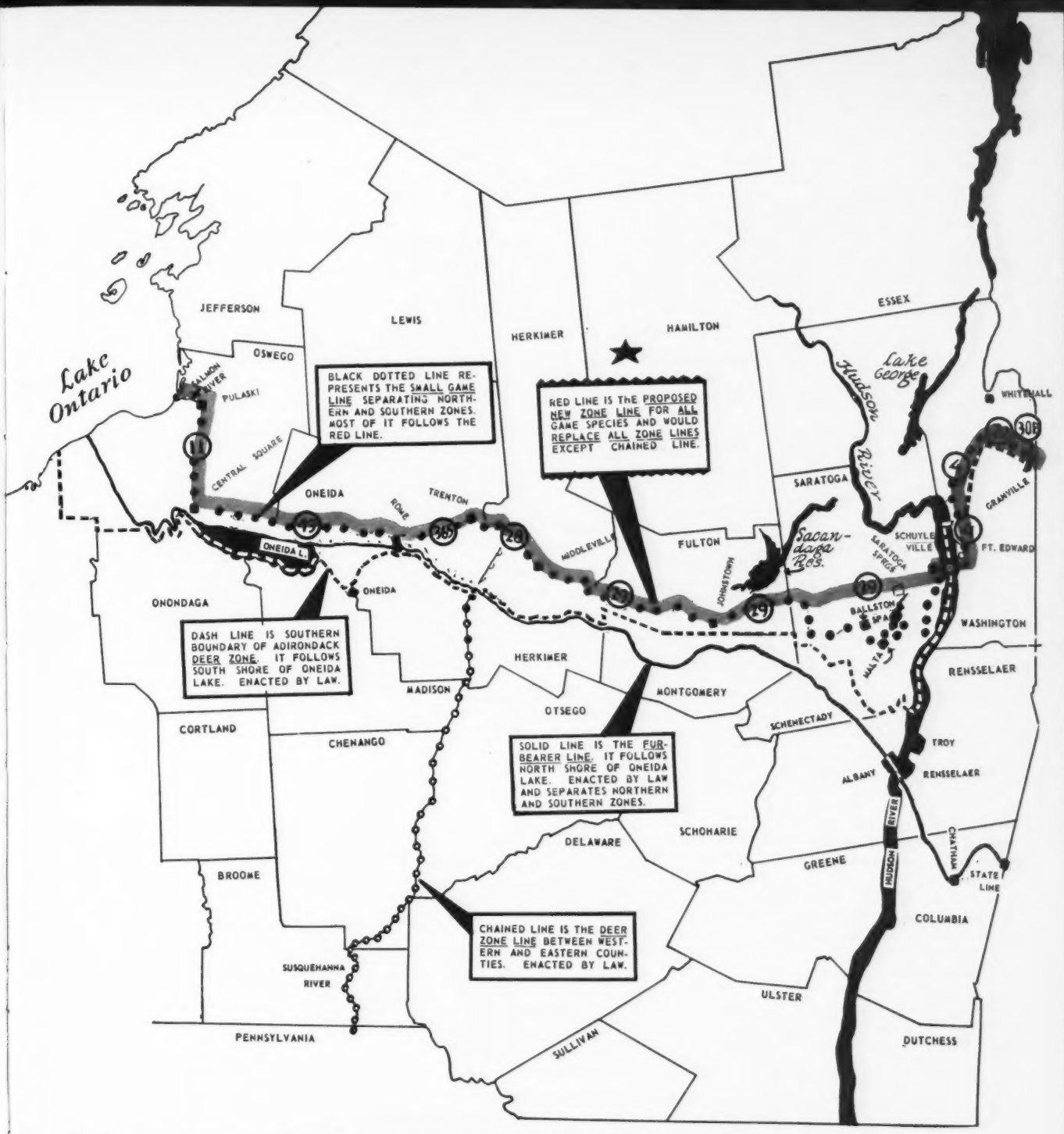
NO one can travel from East to West or North to South across the State of New York without being aware of its vast area and the great variation of its climate and topography. Through most of the year even the human residents of New York, sheltered as they are in modern, elaborately heated homes, are sharply affected by variations of climate and topography. But our game birds and animals, unable to alter environmental conditions to suit themselves, respond with much greater sensitivity than humans to seasonal climatic changes.

Recognizing the value of adjusting the annual game harvest on a regional basis in accordance with the reaction of individual species to environmental and climatic changes, the Legislature and the Conservation Department have for years zoned the State with regard to hunting and trapping seasons. At first relatively simple, the zoning became more complex as game research and management more accurately defined uniform environment for individual species of game. Although sportsmen in New York are well aware of the value of such zoning, they are understandably confused by the present variations and conflicts. The Department is presently working to abate such confusion through consolidation of the several lines separating the North and South zones into one easily recognized boundary.

The map reproduced on this page shows four zone lines applying to the taking of game and furbearers. Three of these are now established by law; namely, the two lines of demarcation between the three deer zones, and the line separating the Northern and Southern zones for the taking of furbearers. The fourth line was established by the Conservation Department for small game seasons this year. The red line coincides with this year's Small Game Zone line except for a simplification in Saratoga County.

We are interested here with the division between the Northern and Southern zones of the State and shall omit any discussion of the line between the Catskill deer season and the deer season in the central and western part of the State —except to mention that this line serves to divide the approximately two-week deer season in eastern counties from the one-week deer season to the west.

From the map it is apparent that three lines forming an east-west band across the State cause a confusing situation to

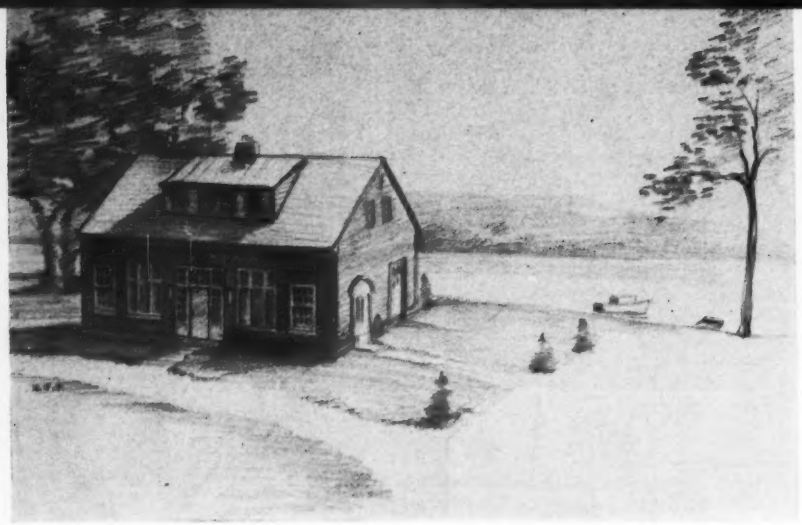



the hunter and trapper. Obviously, a single line would be much more intelligible. Nothing could be done this fall to provide a single zone line, however, since the lines governing the deer and furbearer seasons, as already mentioned, were enacted into law in previous years.

But the red line on the map indicates a possibility for the future. Except for the proposed revision in Saratoga County, it coincides with the Small Game Zone line used by the Department this year. Following almost entirely main highway routes, this red line is the most logical partition of the Northern and Southern zones *for all game species and furbearers.*

Depending upon our experience this year, we hope to press for adoption of this line in the Conservation Law. It meets well the over-all objectives of (1) simplicity, (2) ease of identification, (3) applicability to all species, and (4) logical separation of climatic and ecological zones.

Such adoption should remove confusion now present in the public mind regarding locations and applicability of zone lines, ease the problems of law enforcement, and simplify the description of seasons by the Department.



1 *Hatchery Headquarters, Prendergast Point, Chautauqua Lake. Construction completed 1951. Office, hatching jars, and living quarters for hatchery supervisor are located here.*

# Chautauqua Sketchbook

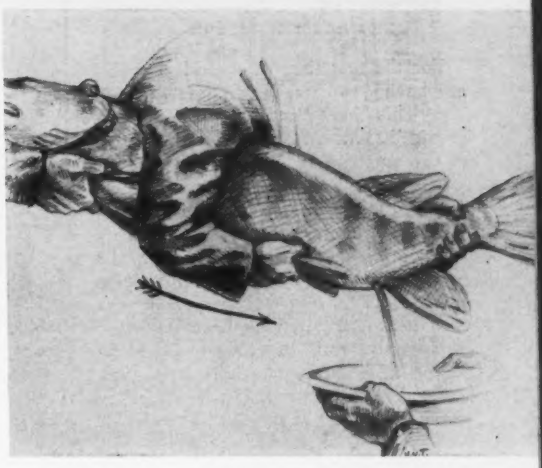
***Field sketches of the world's largest muskalonge hatchery, and some facts and figures as to what goes on there***

4 *Three quarts of eggs in each jar, and 80 jars at the hatchery. Water circulates through eggs via tube to bottom of jar. Eggs are stirred, with feathers, about six times a day. The eggs, mixed with actual lake water of 50°-52° F., take 18-20 days to hatch. A 50-60 per cent hatch is considered good.*

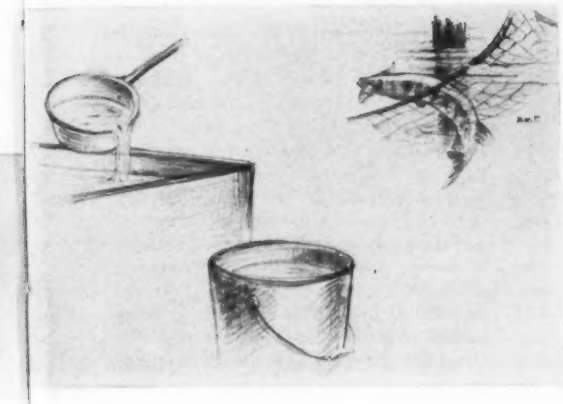
5 *At present the hatchery has 52 ponds (varying in size from 1/8 acre to 2 acres) and these are supplied with lake water. All the ponds are fertilized with 500 to 1,000 pounds of cottonseed meal.*

*When 'lunge are about 1½ inches long they are placed in small ponds to feed on crustacea called* Daphnia *until large enough to take minnows, when they are transferred to the larger pond.*

2 *A power boat pulls scow with poles for traps. Pond traps set in early April may catch up to 200 fish a day. Scow enters trap to remove 'lunge for stripping; 'lunge are lifted from net to water-filled well in scow. (Indicated by arrow.)*



3 *A large female being stripped of eggs. One man holds the head while another holds the tail and strokes in direction of arrow to remove the eggs. One female may give up to two quarts of eggs, which are caught in a pan of water where they must be fertilized within two minutes. Male fish are smaller, seldom over 30 inches.*



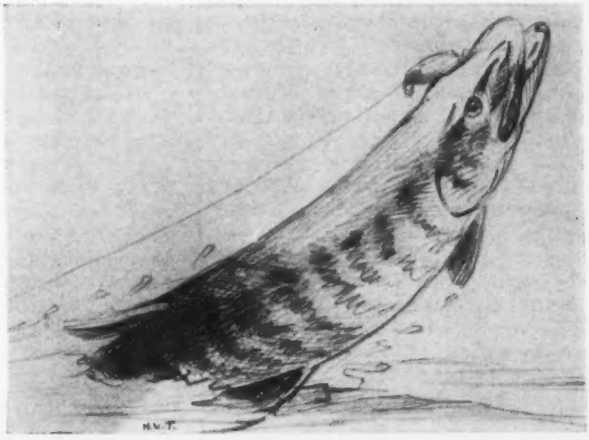
6 *Newly hatched 'lunge are very delicate. A dipper is used to transfer and count them. Since 'lunge will feed only on live food, minnows are raised for them. It requires over 50 lbs. of minnows per day for a one acre pond of young 'lunge. A net around the edge of the pond discourages 'lunge-hungry herons.*

7 *Sometimes minnows are netted in streams as food for the growing 'lunge. These are sorted and the game fish, i.e. bass, are released. (Bucket: bass salvage. Tub: 'lunge food.)*

8 *In September the young 'lunge, now 8 to 9 inches long, are ready for release in the lake. They are carried in tanks in the scow behind the power boat. At this age they are tough enough so they can be transferred to the lake with dip nets. One man keeps the water in the tank refreshed. (At Chautauqua it's not a musky or a muskalonge—it's a 'lunge.)*

9 *In recent years 'lunge fishing at Chautauqua Lake has improved. Last year (1952) over 40 tons of these fish were reported caught. 30 inches is legal minimum length for the Chautauqua 'lunge. 'Lunge are wonderful sport and a worthwhile catch, with fish over 40 pounds having been taken.*

*A person is allowed 5 'lunge a year. A special permit, costing 25¢ (which includes tags) is required. A person must also have a regular fishing license or a hunting and fishing license for New York State.*



## Pheasant season

For the first time in several years we are having two weeks of pheasant hunting. This more liberal season is being provided to hunters of New York because of two outstanding facts:

First, the pheasant population in most areas of good pheasant range (and in many areas of only fair range) has staged a very satisfactory come-back from the period of scarcity in the mid '40's. Second, our winter and early spring surveys of breeding populations have indicated an excessive ratio of cocks to hens, resulting from inadequate harvest of cock birds. Persons specializing in the study and management of this bird have found that the most satisfactory breeding ratio is in the neighborhood of one cock to between six and eight hens. Pre-winter reduction of cocks to such a ratio tends to promote survival of more hens by removing surplus males from competition for winter food and shelter.

The longer season is an attempt to effect a desirable increase in the harvest of cock birds. It not only provides more hunting opportunity to the sportsmen of the State, but better management of one of our most valuable game birds. A later opening date for pheasants (October 26) than that provided for the rest of the small game species in the Southern Zone of New York (October 19) was declared this year out of special consideration to farmers in the counties of the Lake Plains. After all, their lands produce anywhere from 75 to 80 per cent of the annual pheasant kill, and comprise a similar percentage of our best pheasant range. The later opening should ease the farmer's problem of getting his crops in before the pheasant hunters move into his fields. We hope to clear the way for a still more satisfactory solution to this problem in future years.

Many sportsmen are sincerely concerned that the two-week pheasant season may harm our pheasant population. If we thought so, we would not have recommended it. Remember that October 26th is a Monday opening. Furthermore, in many areas the effects of the previous week's hunting on all other small game in the Southern Zone will tend to alert local pheasants occupying coverts in common with the legal game. We can anticipate the greatest gunning pressure on pheasants the first week, during which period we predict that about 75 per cent of the total anticipated harvest of cocks will occur.

The results of this pheasant season will be very closely followed. Furthermore, the findings will be used to determine what steps should be taken by way of modification of opening dates when it's time to consider the seasons for 1954.

# Mink

**by W. J. Hamilton, Jr., *Cornell University***

FEW of us know the mink well. For the most part, the animal moves when those of us who might like to see it are slumbering, although on rare occasions it is one's good fortune to see this little beauty abroad by day. Usually, however, the well marked imprint on the snow covered bank of a stream is the only indication that the creature is about. For many rods under the ice crusted pond or stream the mink makes its devious ways, finally appearing for a moment on terra firma. Then a few tracks on the snow, and the mink again is visiting the water for the ever abundant food that serves it so well in zero temperatures. While northern lights illuminate the sky, the mink is on the move. A hibernating frog, a luckless minnow or sucker will satisfy him for the night. With a full belly, he then seeks some sanctuary as dawn appears.

Widely distributed over the State, the mink occupies any suitable habitat near water, from the tidal streams and salt marshes of Long Island to the mountain brooks of the high Adirondacks. It is still numerous in the inland marshes and pasture streams of agricultural areas, and also along the spruce canopied brooks of the higher altitudes. Like many of our common fur-bearers, the mink is at home near the great cities as well as in the wilderness areas.

The males forage more widely than the smaller females, covering a mile or more of stream and often moving well back into the woodlands. An acquaintance has told me of tracking a large mink for a dozen miles in snow. Every hole, bank crevice and fallen stub is explored in its travels, the sinuous animal threading any nook that will provide it a tidbit. In late winter, the males travel at all hours, intent on a female.

Like all of the weasel tribe (of which the mink is a member) the males normally are much larger than the females. I have weighed big bucks from the swamps of the western counties that ran nearly four pounds—truly a tremendous weight for a New York mink. But usually an old male will not exceed three pounds, the females averaging somewhat over half this weight, while young of the year may not reach a pound. Those from the Adirondacks are smaller, but what they lack in size these mountain beauties make up for in lustrous, fine textured pelts that normally command a higher price than those from the farmlands.

The mating season occupies several weeks in February or March. The mating itself is a savage affair. After a gestation of six or seven weeks (the length may vary considerably) the four to eight young are born in a well concealed nest. This natal chamber is usually situated beneath sprawling tree roots bordering a stream, but it may be constructed in a muskrat burrow or long deserted house, or even in the dark recess of a woodchuck den. At birth, the pink, almost hairless creatures are scarcely larger than a cigarette, and not unlike one in shape. For the first three weeks of life the growing youngsters subsist wholly on milk, but as their tiny teeth pierce the gum, they take minute scraps of flesh brought to them by the mother. When their eyes open at five weeks, the young are weaned and then subsist entirely on food brought by the parents. The father, like so many of the weasel tribe, is a model parent and helps to provide for the growing family until they have left the den site. One litter a year is sufficient to keep our streams populated with mink.

Through the good efforts of many trappers over the State and the collecting of sizeable quantities of mink droppings, we have a pretty fair notion of the food of this species. Fish, small mammals, frogs and salamanders, crayfish, an occasional bird and less often insects and earthworms make up their principal dietary. In the tidal flats of Nassau County, the swarming mummichogs and fiddler crabs provide a ready bounty, while the streams of the upstate farmlands offer frogs and panfish. In the fall and early winter months, the big bucks will search out cottontails, often deserting the waterways for the hedgerows and upland pastures that support a rabbit population.

In our western New York marshes, the mink are larger than elsewhere in the State. This may be a reflection of higher living, for they take a good many muskrats in marsh country. The 'rats are sought in their houses and burrows—or struck down anywhere. Occasionally a mink will meet its match in a big 'rat and be worsted in a battle between the two. In any case, when a mink takes up residence in a muskrat house, it draws all manner of food into this retreat, and as the larder increases the stench must become too much for even this vigorous fellow.

While one cannot condone the loss of muskrats to mink predation, we may find unlooked for benefits in its feeding behavior. I have recovered the remains of recently hatched snapping turtles from mink droppings, and quite possibly the mink may offset any destructive tendency to the muskrat by the partial elimination of that arch predator of the marsh, the snapper.

It is one matter to pass judgment on an animal through a study of several hundred carcasses, but we may be quite wrong in such an evaluation unless sufficient material over the entire year is at hand. One instance will suffice. In August, 1934, my colleague, A. A. Allen, shot a marauding mink at his home in Ithaca. The previous evening the animal had killed and partly eaten several wild ducks on his pond. When Dr. Allen finally shot the mink (which was then giving chase to other ducks on his pond) the carcass was given to us for study. In examining the animal we found it had last eaten a small garter snake, while the hind gut was filled with the undigestible bones and fur of a rat.

The result of this experience indicates only that the mink, like all predators, will take what is at hand. Not so bloodthirsty as the weasel, it will invade, upon occasion, the poultry yard and kill a few hens.

The mink has few enemies. The horned owl, on noiseless wings, may snatch a hapless individual on occasion. Surely the bobcat and red fox destroy a few. And the huge blood red kidney worms, as well as other parasites, take their toll, for the mink is host to many internal enemies that sap its strength. But the arch enemy is man.

As the skim ice of November covers the ponds, the season of peril is at hand. The mink's faded brown summer coat has been replaced by a lustrous pelt, one of the most prized in the fur trade. The trapper, who has prospected for weeks, now runs his line of steel over a dozen or more miles of likely territory. Not a few trappers take 50, rarely 100 mink in the month or two during which most work their lines. (See Ed. Maunton's article in THE CONSERVATIONIST, December, '48.) Probably the greater share of New York's wild mink catch is made by the relatively few experienced mink trappers. Some run a long line by car, making sets at culverts that pass under the highway, while others travel the mountain streams with pack-basket, placing their steel along the watercourses hidden from the road. Many mink are caught in legal muskrat sets. No end of 'rats are likewise taken in the fall sets made for mink, long before the legal muskrat season opens. Art. Cook has told the story of this (CONSERVATIONIST, October, 1949), presenting many of the problems involved. Not a few train dogs to track down and ferret out mink from their den sites.

However taken, the mink is a prize of the trapline. Unlike so many peltries that fluctuate widely in value from year to year, mink are always in demand and always command a good price. With a current value averaging $20, a thousand dollar profit is the reward of many trappers for a short season.

Mink farming, while no get-rich-quick profession, is an agricultural pursuit of no mean proportions. There are many breeders in New York; a few make a good livelihood from mink ranching alone, while others raise a few animals as a sideline to the regular pursuit of farming.

Which brings to mind the old lady who inquired of a prominent mink rancher: "Sir, how often do you skin these creatures?"

After due thought, the rancher replied: "Madam, we pelt 'em a few times, then they get tired and we must rest the animals for a bit."

THIS little story suggests only in small measure that more knowledge is sorely needed on the habits of our native fur animals. While fur animals research has never received its just due, more attention has been directed to it in recent years, and our own State leads in such investigations. In time we may have sufficient knowledge to answer a few more of the many questions that *must* be answered if we are to have proper management of this important natural resource.

# Fire in the Cold River

FROM year to year, we expect and plan for two distinct fire seasons. The first comes in the spring, when the leaves of the previous Fall still litter the ground and when the new green foliage has not yet appeared. The second comes in the fall, when the leaves drop off the trees and dry out very quickly on the ground. But of course, if conditions are right for fires—high temperatures, low humidities, little rain—they can occur at any time. Conditions were right last July 12th, when we had a potentially serious fire in the Cold River blow-down.

The story of this fire was reported at some length in the last issue of our magazine. We now show you some pic-

*This is the Cold River Country: The photograph was taken from Shattuck Clearing, looking up the Cold River Valley. The scene should be familiar to many who have enjoyed this section of our wilderness—one of the most remote sections in the State.*

*As described in our previous issue, lightning struck in this area on the afternoon of July 12th. There had been no appreciable amount of rainfall since the 15th of May, and a serious fire developed at once. There is little doubt but that this fire would have consumed several thousand acres if it had not been for prompt action in bringing it under control.*

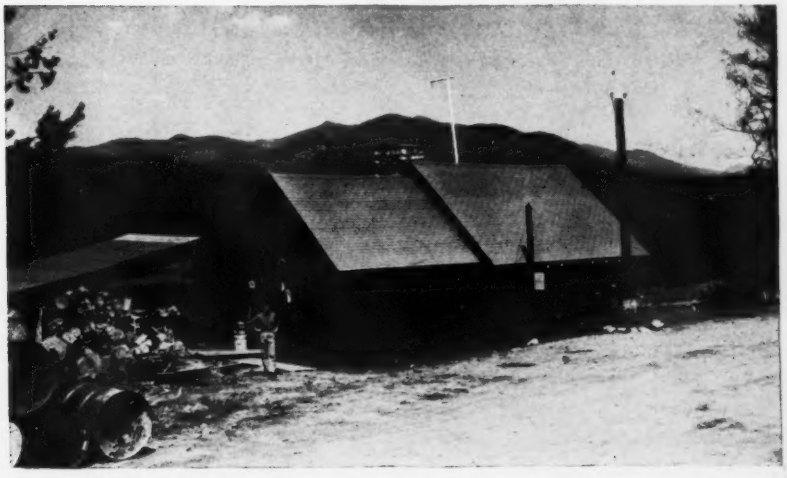
*What the Cold River blow-down looked like before the fire: This photograph shows the type of terrain and woods conditions adjacent to the fire. This photograph is also representative of thousands of acres of mature forests converted into a fire trap by the hurricane of 1950. The shade, formerly provided by the mature timber then standing but now blown down, is no longer available as a deterrent to the rapid drying out of the deep duff covering the forest floor. The result is that such areas as this are particularly susceptible to fires caused by lightning strikes during periods of summer drought such as we experienced this past year. Furthermore, the tangled mass of fallen trees makes access so difficult that in the event of fire direct attack is usually impossible, and always extremely dangerous.*

# blow-down (2)

tures which indicate the kind of country that this fire burned in, and the methods and equipment used to combat it. These same methods and equipment will be used in the event of another fire this fall or next spring. So the purpose of this photographic spread is to acquaint you with the type of material we have on hand, and with our general plans for fighting a big fire. The fire in the Cold River blow-down is cited merely as an example.

*What the country looks like after the fire. You might expect that more of the fuel would have been consumed; trunks and main branches remain. This is because most of the timber, even though blown down, still had its roots in the soil and had not thoroughly dried out. Also, rain (and water pumped onto the fire) dampened the fuel. But note that all twigs and smaller branches have burned, as well as all combustible material on the ground. This was a very hot fire.*

*To maintain fuel supplies for 12 portable power pumps and 2 dozen chain saws, and food supplies for firefighters, the foot trail, even by using 6 available pack horses, proved inadequate. Bulldozers were immediately put in service to widen the foot trail into a temporary road to permit the passage of jeeps and trucks.*



*Shattuck Clearing Forest Ranger headquarters. Originally only accessible by foot trail from Long Lake. After the 1950 storm a truck trail was constructed from the Huntington Forest to this point, and timber salvage operations have been conducted in the Cold River Valley as a fire protection measure. A large cache of both hand and mechanized forest fire fighting equipment, and an additional Ranger and Project Forester, have also been installed, as well as emergency radio communications equipment. Ranger Blanchard spotted the fire from this station.*

*One of the 12 portable power pumps used to pump water onto the Cold River fire.*

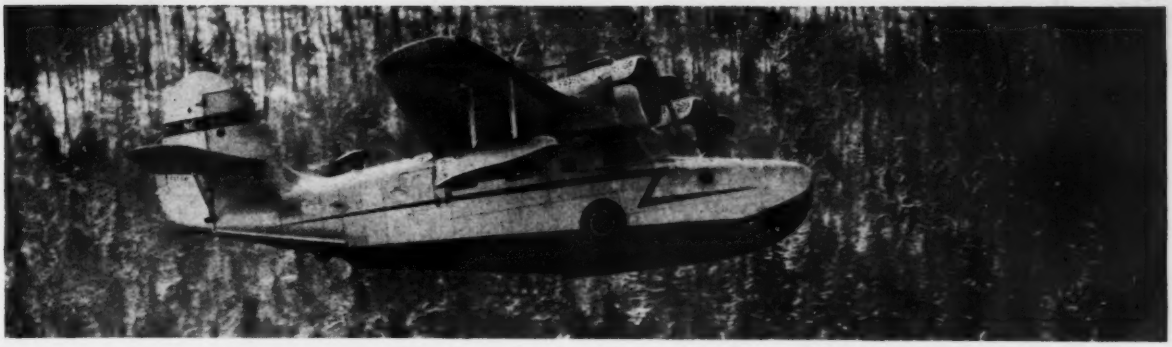
*Wetting down deep burning duff with water furnished from one of the portable power pumps.*

*Knapsack pump used to cool down spot fire so that it can be dug out and completely extinguished with hand tools.*

*One of the 27 slip-on pumper tank units placed in service in the Adirondack area since the 1950 blow-down.*

*Fire fighter digging fire line with rake. Man in background is cutting trail through fallen timber with chain saw.*

*The six sector bosses on this fire had 6-pound radios for communication with patrol plane and headquarters.*



*Department amphibian plane, used for patrol and to drop emergency supplies.*

*It was mechanized fire fighting. Chain saws made routes for the hose.*

*The Cold River fire is out.*

# Avery's

OTTER, 'coon, mink, muskrat; bluegills, bass and brook trout; woodduck, black duck, mallard and bufflehead; Bobwhite and grouse—not a list of game species that live in some sportsman's paradise up in the wilds, but just some of the everyday neighbors who share Latham Avery's 250-acre dairy farm 8 miles outside of New London, Conn.

This farm carries as fine a herd of registered Jerseys as any in the state, 25 to 30 head which produce 300 to 400 quarts of milk a day. Fourteen acres is in improved irrigated pasture, another 30 in mowing fields, also irrigated and fertilized, another 30 in wild pasture used for exercise; a total of about 75 acres producing a good income for the Avery family. But this farm isn't just a milk producing factory. There is a large acreage of wild land that also pays its way with a crop of its own, besides providing a walloping good time for the kids and the grown-ups who live there, not to mention the naturalists who haunt the place.

When Avery bought the farm at the age of 17 (he knew what he wanted to do early in life), there was no wildlife to speak of. He noted the absence of waterfowl and upland game and he decided to do something about it. The neighborhood had once been well supplied with ponds but the dams had long since washed out. He figured it would be no great job to restore one of these dams and see if this wouldn't bring back some ducks.

But the cows came first. It wasn't until one day about four years ago that this cautious Yankee headed down his dirt road (kept unpaved purposely to discourage traffic in his dooryard) to take a look at the useless red maple swamp that dried up every summer and to see what could be done with it. What could be done was accomplished with two bags of cement and three loads of gravel. The gravel was dumped into an old stone culvert closing up the part that had collapsed six feet down. The cement was made into headers on the sluiceway to hold the water level. Two days' work for two men, one of them his neighbor who owned part of the flooded land, resulted in the 30-acre marsh you see in the accompanying picture.

This marsh is five feet at its deepest, with numerous shoals no more than six inches under water. The water level is stable. Dead trees and water tolerant shrubs provide ample wildlife cover and nesting sites. Woodduck, blacks and mallard, the breeding species in this area, were quick to feed on the ample supply of bur reed, smartweed, duckweed and other vegetation as well as on the abundant animal life in the marsh, while muskrat came for the roots of the white and yellow pond lilies and sweet flag. (Incidentally, mosquito larvae are a favorite duck food. We didn't get a mosquito bite during our visit.)

Up the road in the other direction flows a brook. Here an old washed-out dam furnished a core; a bulldozer with a bucket loader was brought in and for $38 another dam was built with a cement sluiceway, and a 10-acre pond was created. Three broods of black and one of woodduck are known to have been raised there the first year.

An irrigation pond within sight of the house—the kind that is being built on farms with the help of S.C.S. technicians—fertilized only with manure washed in from the pasture, is so fertile that it is producing more frog legs, bass and sunfish than the family can keep up with.

Another brook that will be dammed is expected to flood some 15 acres more. That's Avery's next project. He meets the expense by trapping muskrat in the spring when the pelts are in their prime. He averages about 20 rats and one mink a year. They bring in about $50 or $60, which is all he needs to get from them. He has found that muskrat numbers stay in balance with their food supply so that his limited harvesting does not deplete the steady population in his marsh.

He has planted about 2,000 evergreens for wildlife shelter. After their first year, when the trees have gotten a start, he fertilizes them with about ½ cup of 7-7-7, usually in late March after the heaviest rains to prevent the chemicals from leaching. This gives the trees a push above the brush. He has found that the trees planted in light shade, 'though slower in getting started, are more likely to survive our hot dry summers. The shade can be removed after the trees have become established.

Although he himself is a sportsman, Avery has posted his land because he found that one year, when 'coon hunters went out in a boat to get an animal they had treed, the disturbance sent the ducks away never to return that year. His duck population is made up mainly of permanent residents of the area, hence this protection. But of course the excellent resting and feeding grounds that he is providing for migrants contributes to good hunting far away.

All natural predators are welcome to do their jobs. The kingfishers prevent the ponds from becoming overpopulated with undersized fish. Avery prefers a few good-sized fish to many small ones, and feels that the kingfisher helps with the weeding job.

When brook trout were stocked this year in the cold 10-acre pond (they were native to the region in the past), neighbors told Avery he couldn't expect to raise trout with all those otter around. To which he replied with this story: A friend who shares his interest in wildlife asked him one day, "Late, how about the 'otter problem'?" Avery opined that, since the otter and brook trout had been sharing the same areas for hundreds of thousands of years, he thought they might be expected to reach an equilibrium without his interference now. The friend nodded and smiled, "You know what I think about the otter? I think if he could talk this is what he'd say: 'I have to admit those brook trout sure are awful tasty eating, but you know they're too —— —— hard to catch'!" There the friend told the whole story of predation; the species most preyed upon are the easiest to catch.

Avery had to learn one lesson the hard

# Farm

by Adele Erisman

way. He decided to introduce some of the favorite duck plants he'd read about like duck potato, wild celery and wild rice, and some of the rushes not native to the region. He spent a lot of time and money sending for the stuff and planting it. As soon as it came up Mother Woodduck and brood of ten drifted over and cased the situation, whereupon the mother broke down the plants to let the young ones nibble the tops. The plants thus weakened were never able to renew growth. Out of their natural environment, they just couldn't recuperate and compete with the hardier, more aggressive, perfectly adapted natives. Now the plants of the region are allowed to take over. Mr. Avery has observed how each one has its own water level and stops when it reaches another, so that one kind never steps on another's toes.

He feels we cannot overestimate the importance of high grade protein foods for young ducklings. These are provided by the insect and other animal life which feeds on the plankton and algae which in turn depend on light, fertility, aeration, temperature and other complicated environmental factors. Avery tells of a neighboring farmer who has a two-acre pond right below his barnyard. The pond is very fertile 'though quite bare of emergent vegetation or cover. As many as 40 to 60 ducklings have been seen feeding there in June. Of course the pond is rich in plankton and has the yellow-green color that indicates there's enough food for all—plant, insect, amphibian, mollusc, fish, bird, mammal, man.

On warm winter days, whenever the ice melts, the buffleheads and blacks fly over from the nearby Mystic River to visit Avery's marsh, probably to vary their seafood diet.

An old-timer who used to snare grouse in the region tells how he used to see flocks of about 50 woodduck flying from Morgan's Pond to Quaker Pond. But for about 30 years no ducks had been seen. Now that Avery's marsh has given them a destination, flocks of fifty are again seen traveling the same old route. That is restoration, all right.

This winter Avery intends to put up a number of woodduck houses. They will be mounted on ten-foot cedar poles, raised four feet above water. They will have four-inch holes, drainage and slanted roofs with ventilation. These houses will add to the woodduck breeding population but 100 per cent occupancy would be more likely were the marsh surrounded by agricultural land with no natural nesting sites at all nearby.

Mr. Beckley, one of our game management men from Hartford, visited Avery's farm with me this summer. The two men talked for two hours without stopping. Mr. Beckley looked first at the new 10-acre marsh and noted with approval the absence of buttonbush and a species of willow that often take over such areas to the exclusion of more desirable wildlife plants. We thought probably the movement of water and the type of edge would determine their presence.

Avery jumped down into the spillway and showed us thousands of small worms clinging to the wet boards there. He had seen seventeen duckling feeding in that small space on those worms.

Mr. Beckley told us he looks for three things when considering a site for a farm marsh: There should be no live stream to create flood conditions; there should be a reservoir of water; the area should not be heavily wooded because soil is then infertile, trees keep out the light and leaves fall onto the water, inhibiting the formation of algae which starts the food.

As we went back to the house Mr. Avery pointed out his Connecticut Yankee chestnut trees that had been planted three years ago. They were small but loaded with nuts. Unfortunately, being grafted trees, they could not be raised economically for large-scale planting, but he told of an RFD carrier in Massachusetts who has been planting some of the new chestnuts in sunny places on woodland edges and openings. He cares for the trees a little in the beginning, and they are growing so far. The return of some chestnut, Avery feels, would be a great boon to woodduck, squirrel, grouse and other game, even though the blight-resistant trees seem to have no timber value.

I asked Avery how the farmer stands to gain from a wildlife restoration program. After all he is a busy man, his land has to pay; his time and energy count for money. Well, Avery said, a large and varied wildlife population is in itself a product of good land management, an indicator of fertile soil, good water, productive forests. And idle acres, when improved for wildlife, will often more than pay their way with a harvest of food, fur and fun. Yes, he does not underestimate the fun they all have from just living with a bit of wilderness on the farm. Besides, it seems safe to assume that there are still many unrecognized benefits as well. Consider this: Two cows on a neighboring farm died recently from eating poison hemlock, a common plant in the region. These cows had been feeding exclusively on ladino. it's true, which makes them crave a change in diet. But here's the sequel. One day Avery was watching his pond when a wake came towards him. Soon a muskrat emerged and started to feed eagerly on, guess what, poison hemlock. Who knows in how many such ways we can benefit from having wild animals close at hand?

When Mr. Beckley and I drove away, leaving the Averys to their dinner (frogs' legs from the pond, by the way) Mr. Beckley agreed with my sage observation that all we need do now is to figure out some way, not to breed more woodduck. but to increase the Latham Averys by a few hundred thousand.

The last time I talked to him, Mr. Avery was pondering a more practical approach. He was considering a good way to put over the need for habitat improvement to the men around here whose money is spent in bringing back the game. He thought he might invest in a subscription to THE CONSERVATIONIST for each of our three local sportsmen's clubs. He could do this for three dollars.

I told you he did not waste his money. When he spends it he expects it to produce something. And it does.

# Eagles in New York

by Walter R. Spofford

*Adult Golden eagle diving at young White-headed eagle. Shows light base of wing and tail feathers of the Golden, and the speckled appearance of the White-head.*

THERE are two species of eagles in New York State; each is found over most of North America, and each is representative of a major eagle group occurring over most of the world. Among the many species of eagles two groups are pre-eminent — the Sea eagles and the mountain or Golden eagles. The Sea eagles, including our White-headed or Bald eagle, are primarily fish eaters, and prefer the coasts and major waterways, although they may frequent rivers deep into mountainous country. The Golden eagles, feeding principally upon mammals, prefer the mountainous country and high plateaus.

The eagles are not a separate family of birds, or even a natural group, but rather an unnatural assemblage of the larger members of the sub-family Buteoninae which also includes such well known "buzzard-hawks" as the Red-tail, Broad-wing and Rough-leg. The Golden eagle is more like these species than it is like the Sea eagles, and in many ways it is easy to compare the habits and behavior of the Golden eagle with the Red-tail. All eagles, however, are more closely related to the buteo hawks* than are the buteos to the true hawks.

Despite their lack of close relationship, it is often difficult to distinguish the Golden from the White-headed eagle, except in close view, when the all-feathered leg of the Golden is decisive. In distant view, the all-dark adult Golden is easily confused with the all-dark immature of the White-headed. The adult White-headed eagle is distinctive—with both head and tail clear white, and the young of the Golden is also fairly easily identified, when seen from below, by the wide dark terminal band on the tail and prominent white marks in the center of each wing. But in distant view, the adult Golden and the young White-headed are often difficult to tell apart. In good light one may see the golden nape from which the one derives its name, while the head and beak of the White-headed eagle are larger. But, with certain exceptions during migration, the Golden eagle is so rare in this State that any eagle not positively identified as a Golden is in all likelihood a White-headed.

The White-headed or Bald eagle breeds upon occasion over much of North America, more commonly in Alaska and Florida. It is protected by Federal law everywhere in the United States, although until recently there was a bounty on its head in Alaska, where the commercial fishermen maintained it destroyed too many fish. Although there are still many breeding pairs in western Florida (some nesting very close to houses) it is a rare bird in most places, and a single bird seen by many people may lead to the belief that it is more common than is actually true.

In New York there are a few breeding pairs scattered over the northern and western parts of the State, several along Lake Ontario, from near Buffalo, and Rochester to Henderson Harbor; at Cayuga Lake and Oneida Lake, and perhaps along the upper Hudson River and Lake Champlain. Summer eagles seen at other places may be wanderers, or more likely Florida breeders summering in the North. The large nest of sticks in a tree, usually close to water, does not go long unobserved, and some nests become landmarks in their region, such as the former nest at Constantia on Oneida Lake. Herrick records such a nest at Vermilion, Ohio, in continuous use for 35 years, the ever growing nest becoming over 15 feet high before it was blown over in a storm in 1925. The nest built in 1951 in the Montezuma Refuge is conspicuous in the dead woods. In the late spring of 1952 it was partially tipped over, and the eagles rebuilt close by during the summer. But although adult birds occupy this nest each year, I have seen no young eagles in the nest.

Although eagles may be seen at various times through the summer months in southern New York and the lower Hudson Valley, they do not seem to be nesting, and such birds may be Florida eagles summering in the North. That Florida eagles *do* move north in spring as soon as their nesting is over is one of the more surprising results of the extensive study of the White-headed eagle by Mr. Charles Broley, better known as "Eagleman." Retired from banking in Ontario some 15 years ago, Mr. Broley has investigated unnumbered eagle nests from Florida to Canada and banded an incredible total of over 1,200 young eagles. During their first year eagles frequently get into trouble (usually shot or trapped) and the recovered bands show that Florida eagles travel as far north as New York, Ontario, and Nova Scotia. Presumably the eagles that Mr. Maurice Broun records flying south over Hawk Mountain Sanctuary near Hamburg, Pa. during September, are returning to Florida to breed.

Besides these non-breeding summer visitors, other eagles come into New York during the winter months, presumably from the North after the lakes and rivers become frozen over. With an extensive freezeup sometimes these winter eagles may be seen in considerable numbers, and on February 11, 1950, 18 were counted at Croton Point on the lower Hudson River. Upwards of 50 may gather to eat dead fish below dams on the upper Mississippi River during the winter, while along the Hudson, wintering eagles have been seen riding cakes of ice down river.

The Golden eagle, in contrast to the Sea eagle, shows no partiality to water, and at present is found chiefly in the mountainous regions of western North America, making a large nest of sticks usually on a cliff, sometimes in a tree. Nowhere common, it is continuously persecuted by hunters and careless shooters. In this part of the country it has been recorded only occasionally at various times of the year in the last half century, mostly during fall migration.

Formerly distributed generally as a

* Note: the term hawk belongs only to the accipiters such as the Goshawk, Sharp-shin and Cooper's. Other "hawks" are more properly referred to as buteo, harrier, falcon, osprey, etc.

breeding resident from Ungava in the North, and throughout the Appalachian plateau to Georgia, the Golden eagle has now so nearly disappeared that it is difficult to find any authentic breeding records in the last century. A very few pairs may still breed in the southern Appalachians. There are two young specimens in Mr. Bent's collection taken from a nest in 1902 from the Signal Mountain region above Chattanooga, Tennessee, and in *The Migrant* for June, 1932, Mr. Albert Ganier records the discovery of a nest with young on the big yellow bluff below Fall Creek Falls, near Pikeville, Tennessee. The following year Horned owls had taken over the nest, and it is now abandoned. There are several other nests in the Cumberland, discovered by Mr. Ganier, but all are deserted.

In the northern states, a pair of Golden eagles with nest and young were collected in western Maine over 50 years ago, and my mother saw two young taken from a nest near Eden, Vt., about 1895. Two young taken from a nest in the late 1890's, although recorded from New York, were actually from Vermont (and when I visited this cliff I found it occupied by Peregrine falcons, and it has been for over 25 years). These large cliff-nesting falcons leave prominent white marks at the place where they perch at night, and such ledges often become known as eagle nests. Twenty-five years ago Mr. Edward Howe Forbush turned over to me a letter describing a Golden eagle's nest in Maine, but I found this also to be a Peregrine's eyrie. Needless to say, the "sheep bones" found beneath the nest turned out to be Blue Jay feathers.

In spite of this dearth of evidence of nesting, some facts have turned up recently which have yet to be adequately explained. The first is the regular occurrence of Golden eagles from November to late March in central Tennessee, and probably in other regions in southern states. At least six were trapped along the Highland Rim east of Murfreesboro in the winter of 1944-45, and farmers say they appear in November, are frequent in lambing time, disappear in spring. While it is possible that some few may be of local origin, most of them are probably winter visitors from the North, for some 30 to 70 Golden eagles are recorded each fall flying south over Hawk Mountain.

In 1934 the Emergency Conservation Committee established Hawk Mountain Sanctuary, and stationed Mr. Maurice Broun to record the regular hawk flights. Much to everyone's surprise, Golden eagles turned up among the migrating hawks during October and November, an average of 55 Golden eagles a year flying south only a month later than the White-headed eagles returning to Florida to breed. The origin of these eagles is a mystery, but it is likely that this represents a remnant population, breeding somewhere in the Northeast. In the 1930's about half the birds were immature, probably indicating successful breeding, but since then very few young birds have been seen.

*The White-headed or Bald eagle often steals fresh caught fish from the Osprey or Fish-hawk.*

Golden eagles, returning north with the large hawk flights during March and April, are not often recorded, but a few are seen passing over the lake plains region near Rochester, N. Y. Along the Genesee River gorge in Letchworth State Park, Dr. and Mrs. Axtell and the writer watched a 3-year-old Golden eagle on April 25, 1953. A Red-tail swooped at him repeatedly as he circled in the wide valley, the eagle turning his feathered legs up to meet each swoop of the buteo. We watched the eagle for nearly an hour through telescopes as it perched in one tree or another along a bluff over the river. Later we found the Red-tail's nest in the top of a hickory in an open field along the river bottom.

Two more Golden eagles were seen in March, 1953 near Rochester, and it may be supposed that most of these passage Golden eagles nest in eastern Canada. Snyder, summarizing old nesting records, concludes that conditions have not changed greatly in the last hundred years in that great territory of inland Labrador, northern Quebec and around Hudson Bay, and that Golden eagles are probably still breeding there. A few weeks ago Professor Hazel Ellis told me that on a recent visit to a "duck hawk" eyrie at Sugluk on the Hudson Straight, two Golden eagles were nesting there instead of the expected falcons.

Nearer home, there is reason to believe that the Golden eagle is still nesting in northern New England and perhaps in New York, but the records have not been published "for security reasons." We may hope that even yet a pair may be discovered breeding in the wilder parts of the Adirondacks. In 1946 an adult and a full grown young, learning to fly, were seen "somewhere in the Adirondacks." And in January, 1950 an adult was caught in a trap set for coyotes, but died of the infected wound. Three months later in the same Saranac region another Golden eagle was actually photographed while eating a coyote-killed deer. On May 5, 1951, an adult was watched at Gabriels, and another Golden eagle was seen by Mr. Wayne Trimm at Degrasse—all of these seen at a season when the Golden eagle may have been nesting.

The writer of this article has been studying eagles for many years, and would appreciate information about them. Both the Golden and the Bald eagles are rare birds in New York, and should be given every encouragement and protection possible. Both are protected by State and Federal laws. But that doesn't stop people from shooting them, nor does it provide us with much needed information about some of our most distinguished citizens. If you have such information, we would be very grateful if you would pass it on to us at Fayetteville, N. Y.

# THE BACK OF THE BOOK

*Scattershots*
*And Department Activities*

### Campsites in the Fall

On September 15, following the busiest season on record, the Conservation Department closed up shop for the year at most of its Adirondack and Catskill campsites. However, as a service to fall fishermen and to hunters, a number of the campsites will remain open through the hunting season—all facilities available except caretaker.

With the exception of Lewey Lake Campsite, located mid-way between Speculator and Indian Lake Village, which will remain open with caretaker service, the decision on which sites will be held open has not yet been announced by the Department's Bureau of Camps and Trails. But definite information concerning the location of campsites available to fall fishermen and hunters will be made public through the press by October 1 at the latest, or may be secured by writing directly to the Conservation Department, Albany, N. Y.

### The duck season

At last we've got a better duck season for this State. The struggle to secure it has been a long one, but the Conservation Department's continuous efforts of a half dozen years finally bore fruit when a pattern of zoning for duck hunting this fall was granted New York by the U. S. Fish and Wildlife Service.

As a result, duck hunting on the mainland of New York gets under way October 17, while the opening on Long Island and the adjacent Westchester shore of Long Island Sound was set for November 6. Full 60-day periods of hunting are permitted in each zone.

This year's season is five days longer than last because of an increase in Atlantic Flyway waterfowl. The bag of game ducks, except woodducks, is four daily and eight in possession. For woodduck, it is one daily and one in possession. A similar restriction applies to the hooded merganser, while the limit on American or red-breasted mergansers is 25 daily and in possession. For geese, it is two daily with a possession limit of four. Last year, when three geese could be taken daily, only three could be possessed. Daily shooting hours have been lengthened to run (except on opening day) from a half hour before sunrise to sunset. Last year, hunting closed an hour before sunset. On opening day, shooting begins at noon.

Zoning—based upon migration patterns established by ducks themselves rather than man-made state lines—does two things: It permits hunting when ducks are most abundant in the different regions, and it makes it possible to delay the opening in each zone until migrant ducks are present in large numbers. Thus, excessive opening gun pressure is removed from local breeding ducks of the general region of the zone involved. These local duck populations must be built up in the Atlantic Flyway to provide better hunting.

Improvement of hunting regulations through wise zoning is a real step forward in waterfowl management. Full credit for its adoption by Federal authorities this year is given by Commissioner Duryea to John L. Farley, new Fish and Wildlife Director at Washington.

### An increase in ducks

Predicting the kind of a waterfowl crop the Atlantic Flyway will have this year—without possessing all the facts on production in the far-flung breeding range involved—is risky business, but we're going to extend our necks and make the forecast that there will be more ducks and geese this year.

First, we must repeat we do not have the facts. The Fish and Wildlife Service itself will not have them from all of the breeding ranges until days after this is written. But in New York, we've made for the Federal authorities both aerial flights along transects sampling different types of waterfowl production territory, as well as ground counts of considerable number of sample areas.

Both types of survey show substantial increases in the number of broods over last year. The favorable report applies to blacks, woodducks, mallards and blue-winged teal. The increases are recorded from the extensive inland production areas. There isn't the same favorable pattern in the coastal areas, but that region is relatively small.

We also hear that there has been a good increase in breeding ducks in Quebec and Labrador. The winter inventory after the last hunting season indicated this trend. The weather conditions north of the St. Lawrence River apparently have been favorable, and it seems a good hunch to look for a favorable crop of blacks, geese and scaup from that area. The picture apparently wasn't quite as good in the Maritimes early in the season, but if Ontario to the north of us produces along the same lines as New York, and we get a good crop from remote Labrador and Quebec, the lower Maritimes production should be offset. Then, if other States develop a pattern of increased inland production more than offsetting lower coastal production, it adds up in our book to more waterfowl this year.

### Oak wilt

A serious disease of oaks is causing extensive damage in the midwestern states. This disease, now known as oak wilt, is believed to be caused by the fungus *Chalara quercina*. The fungus

attacks and kills red and black oaks rapidly, and white oaks more slowly. No native oak is immune to the disease.

Oak wilt, or a disease resembling it, caused damage as long ago as 1881, but until 1944 it was found only in southern Wisconsin and nearby portions of adjoining states. In 1949 the disease was discovered in many locations throughout Iowa, Illinois, Missouri and northwestern Indiana. It was reported in 1950 from Arkansas, Kansas and Nebraska, and from two counties in Ohio and Pennsylvania. That discovery in Pennsylvania brought the oak wilt perilously close to home.

The various species of oak are widely distributed in New York State. It has been estimated that our total stand of oak equals about 912 million board feet, or about 5 per cent of the State's timber resources. It is impossible to estimate the esthetic value of oak, which is the principal tree species on large areas within the State, but the economic importance is more readily determined: In the year 1945 alone, the cut of oak was 22,050,000 board feet, worth approximately $1,200,000. With such values at stake, it is extremely important that any indication of oak wilt in New York be quickly discovered.

Consequently, during the months of August, since 1951, aerial surveys have been made of oak stands in those areas where the entrance of the disease was most likely. In view of the infection centers in Pennsylvania and Ohio, and the extensive stands of oak in the New York counties adjoining the Pennsylvania border, the survey has been concentrated in that area.

While many oak trees with symptoms resembling those of oak wilt were discovered on these surveys, closer investigation showed that none was infected by the oak wilt disease. The result of surveys as of mid-season 1953 shows that oak wilt, if present in New York State, still remains undiscovered.

Owners of oak stands should not become panicky but those noting oaks upon which the foliage is dead or dying are asked to report their findings to the nearest office of the Conservation Department. Trained workers will then inspect the trees and take samples for laboratory analysis. —C. J. Yops

### Game Protector conference

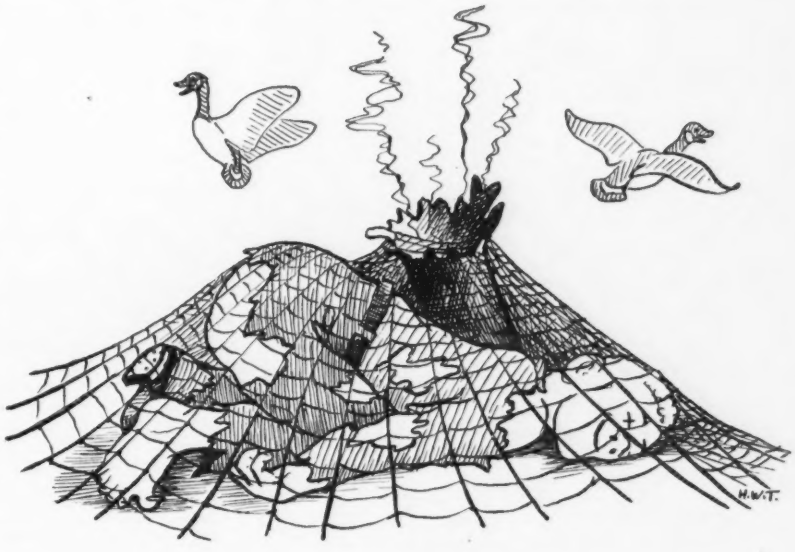
The Department's DeBruce Conservation Camp in the Catskills, Ray Brook Camp in the Adirondacks and Rushford Camp in western New York played host in late August to regional three-day meetings of the entire Game Protector force.

These regional meetings were visited by Commissioner Duryea and members of his administrative staff and various fish and game specialists for a review of Department policy, analysis of new conservation laws and problems, and announcement of the fall game seasons. Kinks in the hunter-training program, in which the Game Protectors, in cooperation with authorized N.R.A. instructors, have played such a vital part, were ironed out and plans laid to handle the pre-hunting season rush of new hunter applicants.

### Spiney turtle

We have it from District Game Protector Bob Vickers, who had it from Protector Brooks, who got it direct from one Clarence Gordon, of Whitehall, that the latter got a spiney soft-shelled turtle on hook and line in Lake Champlain near Clemons, N. Y. Mr. Vickers was surprised to hear about this—and so were we. So we started an investigation to find out just what was its significance.

Not very significant, it appears. According to the authorities, the spiney soft-shelled turtle occurs generally throughout the Mississippi drainage and also the St. Lawrence system, and its appearance in Lake Champlain is not unusual. But (again according to authorities) what *was* unusual was that Mr. Gordon saw one, as these turtles rarely leave the water and so are very infrequently observed. In other words, the observation is more unusual than the turtle.



**The cannon-projected net banding trap. Boom!**

Ingenuity in devising gadgets and new ways of doing things is an asset the value of which is nowhere more apparent than in the field of fish and game research and management. At least, so *we* think. Thus there was general acclaim among game men a few years back when a couple of imaginative biologists, in search of a method for the wholesale capture of waterfowl for banding purposes, came up with the idea for a multiple-cannon projected net. The net, operated from a blind by remote control, is laid out adjacent to a previously baited area and so rigged that the simultaneous firing of a series of small cannons lifts and arcs the net over the feeding birds. The cannons were charged with potassium chlorate and touched off with dynamite caps.

When all went well, the cannons exploded on schedule, ducks were trapped, banded and released—and the biologists basked in the glow of progress. When all didn't go well (which was too frequently the case), the cannons exploded prematurely, ducks took off (unbanded) and the biologists, if they were able, searched the surrounding area for garments and anatomy.

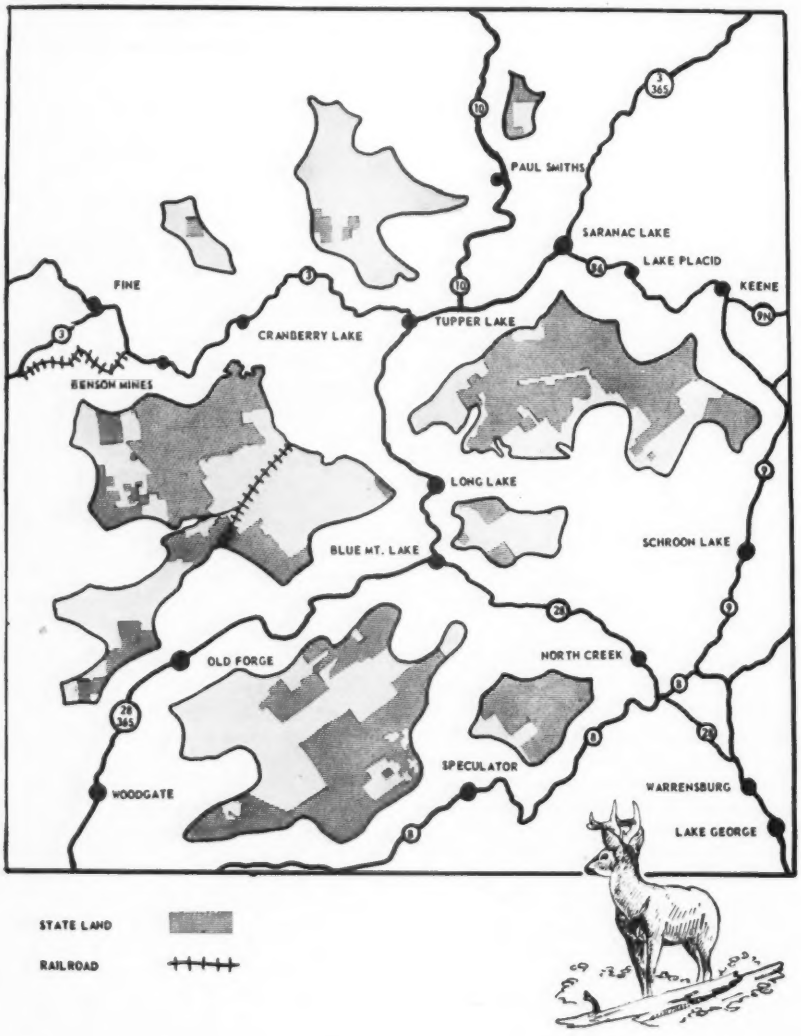
Summarizing the situation, the U. S. Fish and Wildlife Service in a recent report on this device, states: "The cannon trap has proved to be a useful and effective tool since its development in 1949. . . . The present model, however, has certain drawbacks, particularly as regards the safety of the operator." Surviving biologists in the Service, in the interest of self-preservation and also science, have, according to the report, redesigned the cannon and adopted more stable explosives. That's good.

## The Huddle Brook co-operative salmon project

In recent issues, THE CONSERVATIONIST has featured a number of articles reporting upon the efforts conducted by the Conservation Department to establish a salmon fishery in adaptable waters of the State. The success of the program is attested to by anglers, who have this past season consistently taken good catches of landlocked salmon in Lake George, Schroon Lake and other waters where initial stocking of salmon a few years ago is now producing results.

One reason for the success of this experimental salmon program is the remarkably fine co-operation the Conservation Department has received from local sportsmen's groups. Outstanding in this respect is the work undertaken on Huddle Brook, one of the best nursery streams for young salmon, and a tributary to Lake George. Here, the Warren County Federation of Sportsmen's Clubs, working through one of its member groups (the Bolton Fish and Game Club) constructed a horizontal screen type fish trap in accordance with a design provided by the Department's fishery technicians. Completed on May 5 this year, the trap has since been tended by Club personnel and invaluable data secured about the survival and migration of young salmon stocked this spring and in 1952. Analysis of the information gathered through the operation of the Huddle Brook trap will provide the Department's fishery men with the facts needed to further improve salmon fishing in Lake George, and can be applied as well to the development of a salmon fishery in other suitable waters.

As important as this project is in assuring the future of salmon fishing in Lake George, it is even more valuable in illustrating the trend among progressive sportsmen's groups to undertake conservation projects directed toward fundamental improvements in fish and game management. Not so many years ago it was difficult to find a sportsmen's club interested in any conservation subject other than how to wangle from the Conservation Department more trout or pheasants for local stocking. But today, scores of clubs are actively co-operating with the Department's fish and game managers and technicians in such basic projects as stream and lake improvement, tree and shrub planting, construction of small marshes, junior hunter training, co-operative game surveys, fishermen's clinics and many others. This is "grass roots" conservation—the only kind that pays in the long run.




*Set your deer sights on these areas. They are greatly underhunted. Their deer populations have nearly doubled during the last five years of favorable winters. You'll find good hunting and wilderness experience long remembered. Intensive deer management is needed here, and we need the sportsman's help. (See* The Conservationist, *page 5, April-May 1953). Before planning your trip into one of these areas, check with a local or District Ranger for portions which may be closed because of fire hazard. Also, private land (which may be posted) is included.*

## Rattlesnake note

Here is some news for A. T. Shorey, our authority on rattlesnakes, if he hasn't heard it already:

Two men fishing in South Bay (Lake Champlain) on August 18th came up with an unexpected catch—or rather kill. While Messrs Harold Belden and Robert Willis were minding their own business they sighted a rattlesnake swimming across the lake just south of the bridge and about two miles north of Whitehall. It was their impression that the rattler was the proprietor of a den somewhere in the neighborhood of Diameter Mountain. Anyway they clobbered it with an oar and collected the bounty.

## More about small marshes

Recent approval by Federal authorities of a new management activity—the building of small "potholes"—has expanded the scope of New York's small marsh restoration program.

The "potholes," temporary shallow water areas less than an acre in size which are created by quickly built impoundments of simple design, provide the additional territories needed by breeding pairs of ducks in order to increase the productivity of newly-developed or existing marshes. Because they

usually can be built with less than an hour of bulldozer time, it will be possible to create large numbers of these potholes annually, thus greatly expanding the Department's marsh development work. The potholes will be built wherever possible within a quarter of a mile of permanent marsh areas to which broods will move when the potholes dry up.

Construction of permanent small marshes also is being continued at a fast pace. To July 1, a total of 145 plans for small marshes had been approved by Federal and State engineers for construction this year, and additional plans are being processed each day. A total of 200 will probably be built this year. In the past four years during the development of this program, 323 small marshes have been created.

Because of the wide public interest in these marshes, and so that readers may know whether or not they have a potential site for such a development, the basic requirements which must be met are listed below: They are:

*Requirement No. 1:* The number of acres draining into the site must not exceed 20 acres of cultivated land, or 30 acres of grasslands, or 40 acres of woods, or equivalent combinations, per marsh acre. The ratio of drainage area to pond area must not be greater than 40 to 1 in any event. Larger drainage areas usually require more expensive dams and are more likely to cause undesirable deposits of silt in the marsh.

*Requirement No. 2:* When flooded to normal level, the pond should be at least one acre in size (about 240 feet across, if round). Marsh sites of 5 to 10 acres are preferred because they ordinarily cost less for each acre of marsh developed.

*Requirement No. 3:* The dam should not require more than 250 cubic yards of fill per developed marsh acre. Since the top of the dam is usually built several feet higher than the normal water level of the marsh to prevent washing out by spring floods, the banks of the dam site must also be several feet above the planned water level. For example, a one-acre marsh site should be a flat-bottomed basin with a dam location averaging about 8 feet across and having banks about 6 feet high, whereas a 10-acre marsh site might have a dam location 40 feet across with banks 8 feet high.

The sites for the development of "potholes" are being selected by the Department's field biologists as they cruise areas, section by section. In setting up construction schedules, they are concentrating efforts by region in order to make possible low cost mass production through eliminating the waste of long hauls of equipment from site to site.

# Rabbit bones

IF hunters will contribute a single bone (you keep the meat) from the cottontail rabbits they shoot, another important chapter in the life history of this valuable game animal can be read. By means of recently developed techniques involving a study of bone structure, a rabbit's age now can be determined within certain definite limits. A large sample of bones is needed from rabbits killed throughout the open season. Classified according to age, this sample will provide information hitherto unavailable for analysis.

What we hope to get is information about age ratios existing during the hunting season—how many young of the year, how many older rabbits. Information obtained in this manner will be correlated with data from age ratio censuses made during the breeding season. (Breeding season censuses are conducted to determine the ratio of young to adults, as well as the relative numbers of young from each of the various litter groups.) The two sets of data will be compared and correlated in an attempt to develop a more accurate pre-hunting season census method upon which to base season lengths and bag limits.

The key to this information is the upper fore leg bone (humerus) as shown in the illustration. Hunters in Albany, Columbia, Fulton, Montgomery, Rensselaer, Saratoga, Schenectady, and Washington counties are requested to co-operate in the study by mailing in such bones from as many rabbits—taken throughout the open season—as possible. It would be appreciated if the following simple procedure were followed:

(1.) Remove the humerus bone from either fore leg (only one is wanted from each rabbit). Be sure the end which attaches to the shoulder is intact. (2.) Scrape off all flesh. (3.) Record on a sheet of paper *the date when the rabbit was shot*, the locality where taken (by reference to a town which appears on a road map), and your name and address. Fold the information sheet, wrap it around the bone and tie it securely with string, or use separate small envelopes for each bone. Wrapping each bone separately assures positive identification and also prevents sharp edges from punching through the mailing envelope. *Bones without the accurate date when collected are valueless!* (4). Mail the bone (or bones) to the Wildlife Research Laboratory, c/o Joseph Dell, Delmar, New York.

Neither cooking nor freezing destroys the evidence of age, and bones so treated are perfectly acceptable. However, with rabbits put away for later consumption, the jar or package should be labelled with the information called for in item 3 (above) to assure accurate information when the bone is contributed.

—JOSEPH DELL

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*We'll be interested to see how this works out. More and more, game management and research depend upon the interest and co-operation of hunters, who, in the aggregate, represent a potential fact-finding staff that no Conservation Department could ever hope to match. —Ed.*

PROGRESS UNDER THE NEW

# Pollution Law

AS a fisherman, or as a hunter, you have a vital stake in the Water Pollution Control Board and Article VI of the Public Health Law from which it derives its authority. It is in part *your* law, since the demand of organized sportsmen's groups for a law more effective than the pollution section of the Conservation Law aided in its formulation and passage. It is the only law we have that can *prevent* the pollution of your favorite stream. In the fifth year of field operations under this law, it seems desirable to examine the progress of the program that has been initiated and review the accomplishments and some of the problems that have developed.

Before actual enforcement steps may be taken to eliminate or improve an existing condition of pollution, the waters must be classified by following definite procedures outlined in the law. Classification involves a study of each water, then the establishment of a standard of purity for it. To date, of the 49,204 square miles in this State, 1,975 have the waters classified, 2,245 are ready for adoption of the final classification; reports are being reproduced on 310; surveys have been completed on 3,090 and 7,561 more have the survey in progress, or completed in part. The total classified or in process of classification amounts to 15,181 square miles, or approximately 30.4 per cent of the area of the State. A table showing the areas included in this summary and the status of each has been provided by the Health Department and is presented with this article. This total could not have been reached by the Water Pollution Control Board without the engineering and laboratory assistance given by the U. S. Public Health Service, various County Health Departments and the Shellfish Sanitation Unit of the Conservation Department.

From the time of passage of this law money from general funds has been made available to the Health Department for use by the Water Pollution Control Board and to the Conservation Department to enable them to provide necessary facilities and personnel to carry out the Act. For a time, additional grants in aid were made to the Health Department from Federal funds. The Health Department used these Federal funds to provide equipment and engineering and laboratory personnel. When these funds were terminated in 1952, a corresponding reduction in personnel had to be made. Thus the coverage which could be given by that Department has amounted to only 11,421 square miles.

The funds given to the Conservation Department are used to staff and maintain a base and field laboratory unit operating from Rome. This unit consists of an Analytical Chemist and an Aquatic Biologist who are assigned to work with the Field Survey Staff of the Health Department in making specific studies of pollution which may affect fish life in the study area. With the addition of a temporary chemist for part of the time, it has been possible to conduct these studies on most of the major areas surveyed. Coverage through this field season will amount to approximately 95 per cent of the surveyed area.

But this is only part of the complete story. Even if all waters were classified, pollution could still keep encroaching further and further on your favorite stream. The law, however, requires a comprehensive plan for abatement of pollution to be drawn up and placed in effect, after which direct reduction of pollution can be required. These plans, which may involve direct engineering supervision of studies on methods of treatment such as were required in the duck farm region of Moriches Bay, are in effect in a 70-square-mile-area, have been prepared for an additional 930 square miles, and are in process of preparation for regions totalling 975 square miles.

But there is a brighter side to the picture. It is estimated that the 30 per cent of the State that has been classified or is in process of being classified contains more than half of our most difficut pollution problems, including the highly industrialized areas around Buffalo, Syracuse, in the Mohawk Valley, on parts of Long Island, etc. The pollution abatement program is, therefore, further along than it appears at first glance.

Also, whether or not a stream has been classified, all new installations and industries are required to obtain a permit from the Water Pollution Control Board to insure that pollution will not occur. Already, in a large number of cases, possible pollution has been checked under this regulation before damage could be done, whereas previously, under the Conservation Law, no action could be taken until the fish had been destroyed.

It pays to prevent damage to natural resources before it occurs. In this way, the new pollution law is already returning dividends to the sportsmen.

**Survey-Classification work**

(Courtesy D. Stevens, Sr. Sanitary Engineer, State Health Dept.)

| | DRAINAGE BASIN | SQUARE MILES |
|---|---|---|
| CLASSIFIED | Rondout-Wallkill | 864 |
| | Moriches Bay | 70 |
| | Big Sister Creek | 25 |
| | Mill Creek | 20 |
| | Conewango, French, Brokenstraw | 930 |
| | Sauquoit Creek | 65 |
| HEARING HELD | Onondaga Lake | 240 |
| | Sparkill | 10 |
| | Peconic River-Flanders Bay | 130 |
| | Olean Creek | 205 |
| | Silver Creek | 60 |
| | Mohawk River | 1600 |
| REPORT PREPARED | Great South Bay (Easterly Section) | 100 |
| | Wappingers Creek | 210 |
| SURVEY COMPLETED | Sawmill River | 45 |
| | Esopus Creek | 70 |
| | Ramapo River | 100 |
| | Shinnecock Bay-Mecox Bay | 75 |
| | Lake Erie-Niagara River | 900 |
| | Black River | 1900 |
| | Hudson River (Westchester-Putnam Co. line to Mohawk River) Main stream only | |
| SURVEY IN PROGRESS | Atlantic Ocean (Hampton area) | 50 |
| | Lake Champlain | 3211 |
| | Susquehanna | 4300 |

### A road beside a field of corn

*I like a road beside a field of corn,*
*A rural road, where I can stop the car*
*Without disturbance from a honking horn,*
*And see green corn, or brown corn in the shock—*
*Good food for man or fodder for the stock.*
*But I suspect the pleasures I have known*
*Are different from his by whom it was grown.*
*For he, who sowed the field and built the fence,*
*Assays its worth in dollars and in cents;*
*While I, I know, think of the birds and deer*
*That come to feed on rich corn on the ear.*

*To me the cornfield's more than grain and field;*
*It's more than bushels to the acre yield;*
*It's more than food, though food I do not scorn.*
*I like a road beside a field of corn.*

—GRANT MORSE, *Saugerties*

*Adirondack Headquarters of The Conservation Department at Ray Brook, between Lake Placid and Saranac Lake. Foresters, Game Protectors, Game and Fish Managers are all under the same roof.*

### Salvage report (14)

Since the last report there has been only slight improvement in the pulpwood market and as a result, the salvage operations have been greatly handicapped. Fortunately, however, the market for sawlogs improved somewhat, and this permitted the continuation of the program on a limited but steady basis. Heavy rains during the spring months necessitated drastic curtailment in activities, but as ground conditions improved the sawmill operators reactivated the old contracts and became interested in new areas. During June, July and August, eleven new contracts were let to operators of sawmills.

Early in the program it was feared that much of the down timber would be unsuitable for sawlogs by 1953, but there are indications now that the down timber will be saleable for this purpose on many of the areas during the entire year of 1954. While the pulpwood market continues to be poor, there are indications that a few of the contractors will initiate operations on a limited scale this fall.

The following tabulation shows the status of the salvage problem:

| | Executed Contracts | Unsold Contracts | Total |
|---|---|---|---|
| No. of Projects | 146 | 29 | 175 |
| Acreage | 107,828 | 69,515 | 177,343 |
| Cords | 234,471 | 239,525 | 473,996 |
| MBF | 32,825.5 | 9,035 | 41,860.5 |
| Estimated Receipts | $1,043,613.35 | $831,301.25 | $1,874,914.60 |

The actual quantities cut and scaled and the total receipts are as follows:

| | Cords | Receipts |
|---|---|---|
| Softwoods | 215,562.27 | $710,795.59 |
| Hardwoods | 548.63 | 1,072.28 |
| Total Pulpwood | 216,110.90 | $711,867.87 |
| | MBF | Receipts |
| Softwood Sawlogs | 29,117,133 | $151,802.19 |
| Hardwood Sawlogs | 9,646,358 | 107,914.97 |
| Total Sawlogs | 38,763.491 | $259,717.16 |
| Total Sawlogs and Pulpwood | | $971,585.03 |
| Local Sales | | 87,061.95 |
| Total Cash Receipts | | $1,058,646.98 |
| Campsite Salvage (Estimated Value) | | 48,480.00 |
| Salvage, State (1,250 MBF @ $85 MBF) | | 106,250.00 |
| GRAND TOTAL | | $1,213,376.98 |

AT HOME AND AT SEA

# Marine Fisheries Protector

IN the accompanying columns William E. Tinney has set forth the Civil Service Commission's interpretation of what it takes to become a Marine Fisheries Protector, the area of the State in which he works and a simplified recital of the duties this sea-going enforcement officer is called upon to perform. For the purpose of imparting factual information to able-bodied aspirants to the job, this boiled-down Civil Service recital of qualifications serves the purpose with dispatch; it tells the story from the outside, looking in. It doesn't and can't, convey much more than a suggestion of what the work entails once the successful aspirant is actually on the job, nor does it convey any indication of the vast area of land and sea to be patrolled or the staggering value to the people of this State of the fisheries resource of the Marine District.

The aspirant can, however, get some conception of the expanse of bays and ocean patrol area as well as the magnitude of Long Island's sport fishery by examining the map of that area in the last issue. Each year upwards of 2 million rod and reelers descend upon New York's Marine District, line its jetties and beaches, fan out over the bays in rowboats, explore the surrounding ocean in private cruisers, charter boats and open boats. In the process they spend millions of dollars—and they get their money's worth! As for the commercial fishery of the District, catch records show a harvest last year of over 282 million pounds of fish and shellfish valued at better than 15 million dollars.

No, the Civil Service text hardly prepares the aspirant for the responsibility he will share in assuring the orderly harvest of such vast resources, but scattered about between the lines are some clues of what life is like for a Marine Fisheries Protector. Let's take a closer look at some of these clues.

It's required, the text says, that the applicant be able to handle small boats and operate motor boats in the Marine District. Now this sounds idyllic. It suggests that anyone who knows port from starboard, fore from aft, on which side of a buoy the channel lies and what "cooks" inside a marine engine to turn a propellor will henceforth spend a good share of his time leisurely cruising, at State expense, around the rippling bay waters of Long Island or on the sunny expanse of the surrounding blue Atlantic. In the assortment of weather parcelled out to Long Islanders, there are days like that—but some other varieties too! The text makes no suggestions as to what the Marine Fisheries Protector is supposed to do some miles off Montauk Point, engulfed in a March nor'easter, to nurse a 32-foot patrol boat through cascading cliffs of angry green water while trying to figure a compass bearing against wind, tide and R.P.M's. The text offers no pointers on feeling one's way through a "wool blanket" fog nor on jockeying a boat through a mid-winter storm with sleet coating the rigging and deck with an icy sheet. The text does refer in passing to "adverse weather conditions" which phrase — to any old-hand Marine Fisheries Protector who many times has clung grimly to the wheel of a crazily lurching patrol boat, half buried in the grinding fury of vertical seas—gets first mention for the understatement of the year.

The Marine Fisheries Protector either knows how to handle these situations, or there is another vacancy to be filled by Civil Service.

The text says "no regular working hours." Reading that, the unwary aspirant has difficulty believing his eyes. Can this be *it*, Utopia, a permanent vacation with pay? Don't be deluded! Take another look at the prefacing catch phrase: "On call 24 hours per day." That they mean! Just to make sure, the Department furnishes a telephone, and after careful calculation, installs it within the Protec-

tor's 2 A.M. reaching distance. It's never quiet for long. Literally thousands of people know the Marine Fisheries Protector in his district, have a fairly good idea of the duties he is hired to perform and, because he represents the Conservation Department to them, assume he has the answers to all conservation problems. At any rate, they call morning, noon and night—which points up another gap in the Civil Service text. The text doesn't mention that the Protector's wife or family, although unsalaried, will be about as close to the job as he; copying down messages, answering routine inquiries, locating him in emergencies and wondering how far off shore he is when the radio announcer starts reeling off coastal storm warnings.

Skipping along in the Civil Service statement we come upon a clause referring to the Protector's inspection duties in the retail and wholesale fish marts. Sounds simple! Just drop in, look around, see if everything is neat, tidy and sanitary; everybody playing the game according to Hoyle. Then the Protector hits Fulton Fish Market for the first time—and learns why Civil Service insists the applicant be "free from all mental defects."

Those who for years have threaded their precarious way along the fringes of sanity immediately lose their grip when suddenly exposed to the apparent lunacy of this billion-dollar clearing house for fish of all kinds and humans of all nationalities. Mountains of fish move into the market in trains, boats and trucks, by bulk, boxes and barrels. Push carts clank over cobblestones, vans roar up and down the street, men in the market stalls shout in every language but English, shake their fists, point to Heaven, shrug their shoulders. Buyers and sellers communicate bids and sales by incomprehensible jargon and mysterious signals. Magically, the stalls, overflowing with tons of fish in the predawn hours, are emptied by sun-up and the fish on their way to hotels, restaurants and homes across the country. All the Marine Fisheries Protector has to do at Fulton Market (other than maintain his sanity amidst the incredible din and confusion of this fish foundry) is to unravel the mysteries of sale and transfer, see that finny fish and shellfish are of legal kinds and sizes, and are properly marked and handled.

The text is a little more specific in setting forth the enforcement duties afield: "Enforcing laws and regulations pertaining to the taking of shellfish, crustacea and finny fish. Apprehending violators," etc. These, as a matter of logic, are things the aspirant could foresee. What he might not foresee (but for which he should figure out counter moves early in his career), is being shot at while overhauling unlicensed shell fishermen in a cross bay chase; looking down the cavernous barrels of a 12 gauge shotgun while a violator fiddles with the triggers and weighs the shouted advice of a crony to kill the so and so; listening to the murderous "whish" of a pair of tongs swung by a bayman apprehended taking clams from a condemned area.

These are a few aspects of the job of Marine Fisheries Protector the aspirant won't find in the Civil Service announcement. They are things, though, that make the job worth doing and interesting; a job which, despite the admittedly modest salary, attracts good men to the work and keeps them on the force.

—Al. Bromley

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## Marine Fisheries Protector

SALARY: $2,771 at time of appointment and increases by five annual increments to a maximum of $3,571.

CIVIL SERVICE STATUS: Competitive Civil Service. Personnel recruited by means of open-competitive examination.

POSITIONS (NUMBER AND LOCATION): There are three Marine Fisheries Protectors at the present time. These jobs are located in counties in the Marine District.

PROMOTION OPPORTUNITIES: Appointees are eligible to compete in promotion examinations for the higher grade position of Assistant District Game Protector.

WORKING CONDITIONS: Work is performed out-of-doors the year 'round. It involves considerable small boat patrol on the waters of the Marine District, frequently under adverse weather conditions.

Protectors have one day off in seven. On call 24 hours per day. No regular working hours. They receive 24 days vacation with pay each year and earn one day of sick leave credit for each month worked. Unused sick leave may be accumulated to a maximum of 150 days.

Uniforms and necessary equipment, including telephone, are furnished by the Department. Employee must furnish car. Travel expense, for official business, reimbursed monthly at rate of 8 cents per mile for car, and for board and lodging when away from official headquarters.

RETIREMENT: Membership in Retirement System compulsory. Employee contributes on a payroll deduction basis. Variety of retirement benefits are offered.

DUTIES: Under general supervision, enforces State laws relating to fish conservation in the Marine District of the State. Patrolling an assigned area in the Marine District and operating inboard and outboard motorboats as required. Detecting and reporting sources of pollution affecting shellfish resources. Enforcing laws and regulations pertaining to the taking of shellfish, crustacea, and finny fish. Investigating suspected violations, securing evidence for prosecution, apprehending violators, and arraigning violators before a magistrate. Inspecting places where shellfish are stored, processed, or sold to determine compliance with laws and regulations with respect to such items as licensing, proper taking of shellfish, and size limitations.

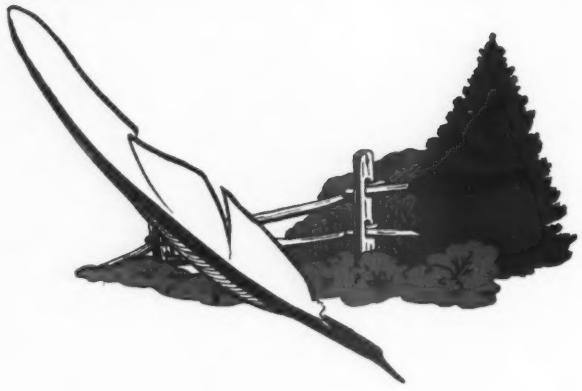
QUALIFICATION REQUIREMENTS: *Physical:* Minimum height of 5 feet, 9 inches, in bare feet; minimum weight of 160 pounds stripped. Physically strong, active and free from all mental or physical defects which impair discharge of duties. *Age:* From 21 years to 36th birthday (time spent on military duty in World War II is deducted). *Experience:* One year of satisfactory paid or profit-sharing experience on a fishing vessel engaged in sport or commercial fishing in marine waters of the State.

SPECIAL KNOWLEDGE AND SKILLS: Good working knowledge of the types of gear, equipment, and methods used in the taking of marine shellfish, crustacea, and finny fish. Some knowledge of the Conservation Law relating to conservation of marine fish. Ability to handle small boats and to operate a motorboat in the Marine District. Ability to follow complex oral and written instructions. Tact and courtesy in meeting and dealing with the public. Ability to write reports. Possess integrity, good judgment, resourcefulness, thoroughness, and good character.

NOTE: Bear in mind that publication of this and other job descriptions is for the general information of the interested public and does not necessarily indicate the existence of vacancies. We believe some have thought these are advertisements for help, but that is not the purpose of these pieces. The purpose is merely to acquaint the public with the conditions and terms that apply to various Department jobs.

—William E. Tinney

NEXT ISSUE: *Conservation Aide.*



# LETTERS

*To The Editor*

### Resident license

Dear Sir: Under the existing Conservation Laws in the State of New York, the only person who is entitled to a resident license for fishing or hunting is one who maintains his legal residence in the State.

A person such as myself who maintains his legal residence outside the State of New York, but who owns property in New York and pays taxes on it, is not entitled to a resident license. Such a taxpayer therefore receives no more consideration or benefits from his taxes than a non-resident—or for that matter, an alien—who might decide to spend a week or so hunting or fishing in the State. This does not seem to be fair and equitable, and I am sure it is not the intention of the law to penalize this class of taxpayer.

It would seem to me that a property owner who actually lives part of the year on his property, maintains it, pays taxes and brings considerable business to the community is entitled to the same consideration as any other taxpayer. Certainly, from the conservation standpoint we contribute much more than apartment dwellers from the metropolitan areas of the State, and yet they are entitled to resident licenses and we are not.

William E. Cornell, Bloomfield, N. J.

*• We appreciate your argument, we don't underestimate your contribution to the support (through taxes, etc.) of our own State government, and we'd like to do something for you. But we assume you buy a resident license in New Jersey, and if you were to buy a similar license in New York, it would appear that you claimed legal residence in both states. Our courts don't go for that. —Editor*

### Rifle law

Sir: I have been told it is against the law to take a high powered rifle into the woods except during deer season. The only mention I have seen in your magazine regarding this was "When accompanied by a dog." Can you tell me or send me a copy of the law covering this situation. I do like to take my 30-06 into the woods for target shooting during the entire year so I won't be too stale when deer season arrives. There are no rifle ranges here to practice on.

John R. Brown, Rome

*• In "shotgun counties"—where deer may be hunted only with shotguns—it is illegal to go afield with a rifle larger than a 22 rimfire during the deer season. At other times in such counties, you can go out with your 30-06 and shoot varmints or do target practice. That law about carrying a rifle larger than a 22 rimfire, when accompanied by a dog, applies only to the Adirondack Park during the close season for deer, and an exception is made in favor of coyote hunters with a permit. But there are local ordinances that you have to watch out for, and laws applying to Long Island and Westchester, where you can't go afield with a rifle at any time. However, this (in Long Island and Westchester) does not apply to members of organized target shooting clubs carrying unloaded rifles to or from the target range. —Editor*

### On the 7th day you rest

Dear Editor: For some years I have been of the opinion that hunting and fishing are illegal in New York State on Sunday.

I realize that there are lots of outmoded laws on the statute books that are not enforced. Is this one of them? Rest assured I am not trying to make a point of it. As a matter of fact I would be very much averse to any attempt at enforcement.

Leland L. Kathan, Schenectady

*• Your inquiry is well founded: Section 2145 of the Penal Law prohibits the citizens of this State from hunting or fishing—or for that matter, from croquet—on Sunday, and this section has never been repealed. In 1893, however, there was an opinion of the Attorney General to the effect that the Conservation Department was not obligated to enforce the provisions of this law, and it goes without saying that we have never tried to.—Editor*

### Bear nests

Dear Sir: Among Letters to the Editor in recent issues of THE CONSERVATIONIST there appeared some interesting comments on bear nests which reminded me of one I had seen several years ago—not in New York State, but far to the south below the Rio Grande.

In the spring of 1945 several of us were exploring the Sierra del Carmen, located some 15 or 20 miles south of Boquillas in the State of Coahuila, Mexico. On General Miguel Gonzalez's ranch, El Jardin, we stopped one day at Ojo de Vibora (snake spring) where our guide pointed out to us a large platform of sticks among the limbs of a Madrona tree about 12 or 15 feet above the ground. We were told that bears had used this nest regularly for some time and that other nests had been built by them in that vicinity but were now demolished. Bear sign in that area was fairly common, and it was apparent that bears had been feeding extensively on Madrona berries.

This was the first and only bear nest I had seen, and I have not seen mention of the subject anywhere except in THE CONSERVATIONIST. Apparently, however, it must be a fairly universal bear trait.

Clifford C. Presnall,
Washington, D. C.

### Kingfishers

Gentlemen: A few weeks ago while taking a walk along a stream in my woodlot I found a kingfisher with a wounded wing. I took the bird home, gave the wound medical attention and returned him to the stream.

Yesterday I found out what had happened to the kingfisher; one of the local citizens stated that there was a bounty on kingfishers. Reason: Taking too many small fish. I immediately remarked that I had not seen anything in THE CONSERVATIONIST about such a plan, and I am quite sure you would not sanction such a scheme.

William Swackhamer, Petersburg

*• This State doesn't pay a bounty on any bird or quadruped.—Editor*

### Legal wrang'e

Honorable John Foster Dulles
Dear Sir: What law, if any, gives the State of New York the right to charge a citizen of the United States for a non-resident fishing permit in the territorial waters of the United States? New York State can't grant Canadian net fishermen a license to fish in American waters, which they did up to a year ago. U. S. Customs controlled that. U. S. Wildlife provide these territorial waters with fish raised in U. S. hatcheries.

W. E. Stanley, Naturalist,
Fisherman and Guide, Largest Lake
Ontario Fishing Boat, Cape Vincent

*•The Honorable John Foster Dulles has asked us to make reply. If we are interpreting your letter correctly, you are questioning the authority of New York State to regulate the fishery in waters of the Great Lakes lying within State boundaries. As a basis for your question you point to the fact that the Federal Government under United States code restricts American fisheries to vessels of the United States properly documented to engage in that trade. . . .*

*The United States Code, quoted in part above, is applicable only to the operation of commercial fishing vessels of alien registry in such waters, and has no application to the title to nor the jurisdiction of the State over its fishery within its own territorial waters. This is further clarified by Section 150 of the Conservation Law which provides, "The State of New York owns and has title to all fish, birds and quadrupeds in the State except those legally acquired and held by private ownership. Any person who kills, takes or possesses such fish, birds and quadrupeds thereby consents that title thereto shall remain in the State for the purpose of regulating and controlling the use and disposition of same."*

*Further, Section 180, subdivision 1 provides in part that no person shall take fish by angling without first procuring a license and then only during the times and periods when it shall be lawful. And finally, subdivision 4 of Section 151 of the Conservation Law provides that the Department shall have power to issue licenses prescribed by law and to fix fees therefore and terms thereof.*

*It will be apparent therefore, that the Conservation Department, acting for the people of the State of New York, is clearly within its rights—and is fulfilling a duty set forth under law—in issuing a license to a non-resident to take fish by angling in any of its inland waters, including the areas of the Great Lakes within the territorial limits of the State.—John R. Greeley, Chief Aquatic Biologist*

### Abandoned land

Dear Sir: During these past few years I have seen much abandoned farm land and idle fields in southwestern New York. I would like to inquire as to the possibility of leasing or buying some State-owned land for the purpose of "tree farming." Is there a program whereby I can secure State land for the purpose of planting Christmas trees and Black Walnut?

Is it true that I can get Christmas tree seedlings from the State?

A. A. Nist, Kenmore

*•No, the State does not lease or sell its land. But if you were to buy a section of other land, we'd be in a position to help you. You could then sign up as a co-operator under the Forest Practice Act (bulletin enclosed) and then you would be eligible to receive seedling trees from our nurseries without charge, as well as advice on how and where to plant them. You could also get some help on the actual planting. But FPA co-operator or not, you can buy seedling trees from our nurseries at cost.—Editor*

The Hudson by Kensett

Dear Sir: It was with the greatest pleasure that I received the April-May issue. For 20 years I have looked out over the scene depicted on the cover, and no matter what the season, it has always been beautiful. The dormitory in which I live stands about in the clump of trees directly behind the center cluster of houses. Could you tell me if it is possible to obtain a copy of this print suitable for framing? Now that the bridge is being built across this stretch of the Hudson, I am anxious to have some reminder of the beauty of the broad expanse of water.

(Miss) L. Selina Smith, Dobbs Ferry

Gentlemen: On the cover of THE CONSERVATIONIST for April-May is the picture of the Hudson River at Dobbs Ferry, by Kensett.

Having lived for the past 30 years or more at Dobbs Ferry, and as my wife and childen were born in that village, I am very much interested in the picture. When was it painted, is it possible to obtain a copy, and what would be the cost?

John F. Walsh, Hastings-on-Hudson

*•According to the owner (Victor Spark in New York City), Kensett painted the picture in the 1860's. It is on academy board, and measures 12 x 23½ inches (only a part of it was used on our cover). It is unsigned, as were so many of that size which the artist made in preparation for larger pictures.*

*We have no reproductions, other than a few additional copies of that issue of the magazine.—Editor*

### Air layering

Dear Sirs: In the April-May issue of THE CONSERVATIONIST on page 14 is a very instructive article on *Air Layering*. I am wondering, however, if you have noticed a curious inconsistency:

Under paragraph #1, there is this sentence: "A branch one-half to three-quarters of an inch is the ideal size." The illustrations, showing a person's finger and a twig that is being prepared for air layering, show that the finger is over four (4) times the size of the twig. A good sized finger is ¾ of an inch in diameter. ¼ of that is 3/16 of an inch—which is less than one-half of the minimum size twig suggested. As a matter of fact, the photographic size indicated is the size likely to be used. What do you think about this?

Victor Starzenski, Galway

*• Your comments on the photographs illustrating air layering are well taken. Unfortunately the photographing was done while I was not there, for I should certainly have had larger stems used in the illustrations.*

*My statement that best rooting occurs on ½ to ¾ inch stock, 3 to 4 years of age, I still feel is correct.—H. Gleason Mattoon, Narbeth, Pa.*

Dear Sir: I am most grateful for the article on air layering in your April-May issue. I am about to try the method on several species which I have unsuccessfully been trying to root for years, using cuttings in a hormone solution, and have hopes for results this time.

I suspect, however, that the article contains a small error in recommending a polyethylene (please note spelling) film "three or four hundredths of an inch in thickness". I have never seen a polythene sheet anywhere near this thick, and rather doubt that it is cast commercially. After all, .03" is 1/32, which would be pretty stiff and of negligible permeability to air. Don't you mean 3 or 4 thousandths? That's about right for the ordinary material.

Remsen T. Schenck, New York

*•The DuPont Company, manufacturers of polyethylene, supply the film in thicknesses of .001", .0025", .003" and .004". So you must be right.—Editor*

### Pond weed control

Dear Editor: I have a year around home on the shore of Cayuta Lake, a small lake in Schuyler County. I am plagued with a mass of water lilies right in front of the house, right where we have to go through with the boat.

Can you or any of your staff tell me how to get rid of them?

Harry J. Lattin, Odessa

*•Frankly, no—although we've done some of this work employing 2-4-D and also cutting. The results are only sometimes satisfactory. So we suggest you write the Fish & Wildlife Service, Dept. of the Interior, Washington, D. C. and ask for Circular 19. This circular contains the latest information about the control of water lilies as well as other aquatic plants. Price of the circular is 20 cents.—Editor*

### Horned pike

Dear Editor: Maybe you'd be interested in the enclosed clipping, which I have translated from the Finnish language for you:

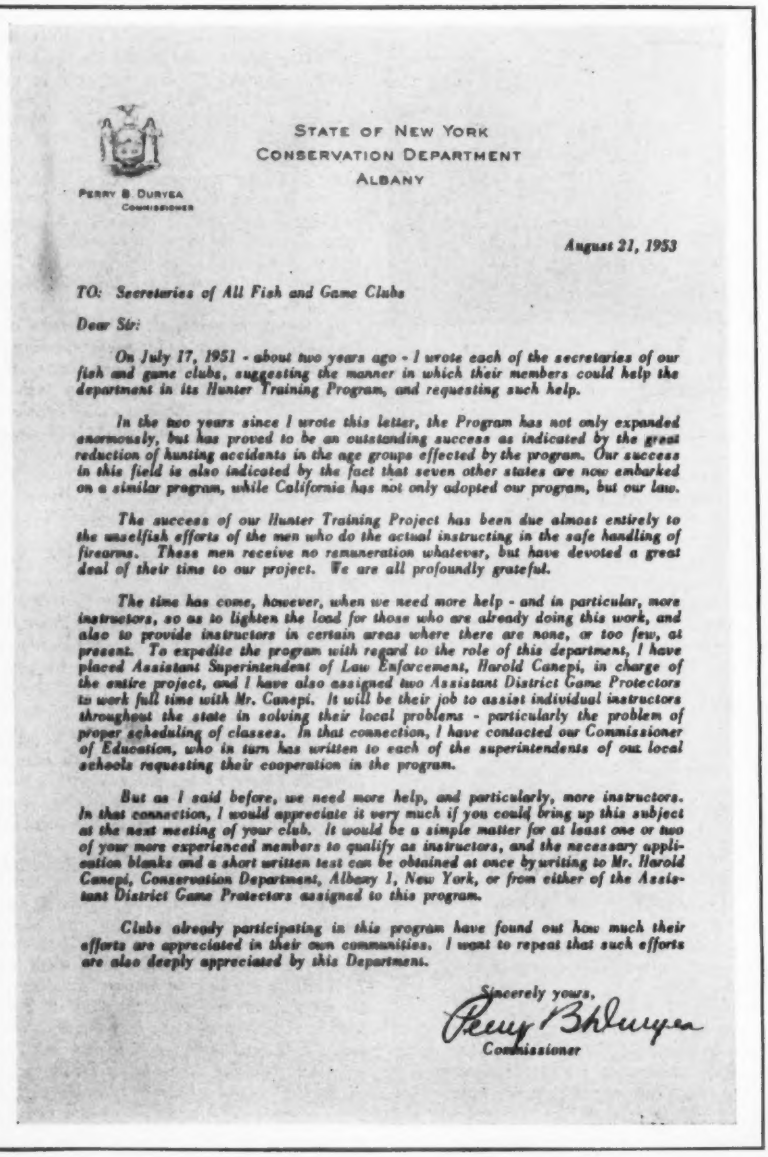
" . . . in northern Finland there have been caught horned pike, which the people have named King Pike. The horns on these fish leave the head obliquely backward from approximately between the nostril openings on the center line of the head. The horns' length is about 5 mm, and they are both sharp and hard. This sort of horn is formed from a fold of muscle or tissue, which is this pike's only especial characteristic. News of this type of fish was brought before the general public mainly by a natural science expedition of research to Kunsamo. This kind of fish also has been caught elsewhere in Finland, but these locations have not been more carefully noted."

Evidently some more technical discussions of these "King Pike" occur in Finnish, most likely in the records of the Game Research Institute in Helsinki, but the lists and publications I have do not mention any. From the Finnish clipping it is obvious Mrs. Crower's "King Pike" does have a top record head.

A. Walton, Jamaica

Dear Sir: On page 32 of THE CONSERVATIONIST is a picture of a spiked pike. Up here in Paradox Lake, I have through the years caught several. These fish had projections from the ridges of the skull 1⅛ inches long similar to those of the sculpin. The horns did not stand out as in the picture, but curved only slightly and extended back about a half inch up from the head. The projections were about 3/16 inch wide at the middle, narrowing to a point. They were about 1/16 inch thick at the base and tapered to the thickness of about 1/64 inch at the end, where they were almost transparent.

Charles A. Tonsor, Paradox



STATE OF NEW YORK
CONSERVATION DEPARTMENT
ALBANY

PERRY B. DURYEA
COMMISSIONER

*August 21, 1953*

*TO: Secretaries of All Fish and Game Clubs*

*Dear Sir:*

*On July 17, 1951 - about two years ago - I wrote each of the secretaries of our fish and game clubs, suggesting the manner in which their members could help the department in its Hunter Training Program, and requesting such help.*

*In the two years since I wrote this letter, the Program has not only expanded enormously, but has proved to be an outstanding success as indicated by the great reduction of hunting accidents in the age groups effected by the program. Our success in this field is also indicated by the fact that seven other states are now embarked on a similar program, while California has not only adopted our program, but our law.*

*The success of our Hunter Training Project has been due almost entirely to the unselfish efforts of the men who do the actual instructing in the safe handling of firearms. These men receive no remuneration whatever, but have devoted a great deal of their time to our project. We are all profoundly grateful.*

*The time has come, however, when we need more help - and in particular, more instructors, so as to lighten the load for those who are already doing this work, and also to provide instructors in certain areas where there are none, or too few, at present. To expedite the program with regard to the role of this department, I have placed Assistant Superintendent of Law Enforcement, Harold Canepi, in charge of the entire project, and I have also assigned two Assistant District Game Protectors to work full time with Mr. Canepi. It will be their job to assist individual instructors throughout the state in solving their local problems - particularly the problem of proper scheduling of classes. In that connection, I have contacted our Commissioner of Education, who in turn has written to each of the superintendents of our local schools requesting their cooperation in the program.*

*But as I said before, we need more help, and particularly, more instructors. In that connection, I would appreciate it very much if you could bring up this subject at the next meeting of your club. It would be a simple matter for at least one or two of your more experienced members to qualify as instructors, and the necessary application blanks and a short written test can be obtained at once by writing to Mr. Harold Canepi, Conservation Department, Albany 1, New York, or from either of the Assistant District Game Protectors assigned to this program.*

*Clubs already participating in this program have found out how much their efforts are appreciated in their own communities. I want to repeat that such efforts are also deeply appreciated by this Department.*

*Sincerely yours,*
*Perry B. Duryea*
*Commissioner*

### The cat law

Dear Sir: In your June-July issue on Page 38, in one of the two articles on "Cats," some reference is made to . . . "proposed law (which would) give outrageous freedom to shoot cats" . . .

Will you be good enough to advise me just what law that is.

Ed. Bauman, Woodstock

*• The present law pertaining to cats is Section 205, which states: "Any person over the age of twenty-one years possessing a hunting license may and game protectors and other peace officers shall humanely destroy cats at large found hunting or killing any bird protected by law or with a dead bird of any species protected by law in its possession; and no action for damages shall lie for such killing."*

*This is the so-called "cat law" as it exists on the books at the present time. The Department feels that this law is slightly ridiculous (apparently you have to ask permission from the cat to examine its quarry and find out whether its prey is protected or unprotected before you take action against the cat). Last year the Department introduced a bill which would permit landowners to destroy cats trespassing on their property. We still think the bill was a good one, since it does not prevent people who want cats from having them around, while it does permit a landowner who does not want cats on his property, to do something about it. But the bill did not pass.—Editor*

### Record heads

Dear Editor: I think your readers will be interested to know that *Records of North American Big Game*, 1952 edition, a publication of the Boone and Crockett Club, the internationally recognized official record keeping authority, is now available. A six dollar ($6.00) check or money order to Boone and Crockett Club, c/o Mrs. Grancel Fitz, 5 Tudor City Place, New York City, will purchase a copy postpaid in the United States and Canada.

The book contains thirty tabulations of record trophies revised according to the new Standard Scoring System, the place and date of killing, the person by whom the trophy was killed, present owner, and the rank of the trophy. Facsimilies of the fifteen new official scoring charts are reproduced. *Records of North American Big Game* contains the finest collection of photographs (59 in all) of world record trophies ever assembled in one book, plus photographic sections on locked antlers, freak horns and trophy rooms with a four color frontispiece.

Samuel B. Webb, New York City

*• We do not publish this letter as an advertisement for the book. But our readers will remember that we have strayed into the field of "record heads," and these people have spent a lot more time on such subjects than we have.—Editor*

White woodchuck

Dear Sirs: I am a subscriber to your wonderful magazine and read it from cover to cover each issue. Am always interested in pictures that you print. I am a woodchuck hunter and shoot them in N. Y. State, having killed 170 to date. On May 16th I killed a white 'chuck and took it to my local paper, where they took a beautiful photo. Am wondering if you would be interested in printing the picture in THE CONSERVATIONIST.

John J. Perkins, Pittsfield, Mass.

White grouse

Dear Editor: Am sending you picture of pure white grouse, shot by me in Saratoga Co. Thought you would like to put it in your good magazine. I understand this is a very rare bird. It was shot near Vic. Skiff's camp.

Sidney Wiswall, Ballston Spa

The long voyage home

Dear Editor: About two weeks ago, while camping in the woods between Speculator and Lewey Lake, we spent a day on the trail into Pillsbury Mt. Fire Tower. What a climb! But we were quite disappointed upon reaching the tower to find the observer was not there. We had had rain the day before, and that must have been the reason for his absence.

Do those men up on those mountain tops such as Pillsbury have to carry all their provisions in on their backs? And if they have a day off, do they hit the trail as we did? If so, all I can say is, what service could be rendered these worthy men with a helicopter!

Mrs. Ruth Jeckel, Germantown

•*The Pillsbury Mt. observer was in the hospital due to a leg injury at the time Mrs. Jeckel and family were up there. All observers in this district pack their supplies up their mountains on their backs and there are several much more difficult to climb than Pillsbury Mt. Their day off is spent at home or in the nearest village getting supplies for the trip back, but I doubt if many of them hit the trail for recreation.—F. E. Fohrman, District Ranger*

Sawmill list

Gentlemen: In your April-May, 1953 issue you have an excellent listing of pulpwood mills throughout the State. Some day I hope to buy some land, and I'm interested in sawmills which are located in the Catskill Park Area and the Adirondack Area (eastern section).

Does the Conservation Dept. have such a listing of sawmills available for public information?

Arthur D. Kaufman, Bronx

•*Yes. A revised list is due this month. —Editor*

From Whiteface—what?

Gentlemen: I visited this wonderful mountain top (Whiteface) on August 23rd and shared with visitors from most everywhere the picture of these "Old Lands of North America." What New York State has accomplished in running a road to this peak —the tunnel thru' the tip top, view and all— deserves the greatest tribute.

But *I was positively astounded* to find only my eyes so favored, and my intellect severely handicapped; *What were we looking at?* No one knew. My guest asked, What lake is that, or is that (Schroon River) Lake Champlain?

How come, that the planning did not include moulded or relief maps such as you have, for example, on Pokomoonshine Mountain? That's a display of brains sadly missing on Whiteface.

Hundreds of cars that day and most of us, except those getting near an attendant, coming down without knowledge of what we had looked at. I may have missed such a relief map. If so, forgive me and tear up this protest. Otherwise, please give my sugestion consideration.

Col. Sydney E. Hammersley, Willsboro

•*Ouch! You missed it because it wasn't there. But for the past month such a map has been under construction, and may be completed this fall—certainly by next spring. —Editor*


STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933; AND JULY 2, 1946 (Title 39, United States Code, Section 233) OF THE NEW YORK STATE CONSERVATIONIST published bimonthly at Albany, N. Y., for October 1, 1953.

1. The names and addresses of the publishers, editor, managing editor, and circulation manager are: *Publisher, New York State Conservation Dept., Albany, N. Y.; Editor, Pieter W. Fosburgh, Albany, N. Y.; Managing Editor, Roland B. Miller, Albany, N. Y.; Circulation Manager, Michael C. Wales, Albany, N. Y.*

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given). *New York State Conservation Dept., Albany, N. Y.*

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) *None.*

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

PIETER W. FOSBURGH, Editor

Sworn to and subscribed before me this 8th day of September, 1953.

AGNES M. KEENAN

[Seal] Notary Public, State of New York
Appointed for Albany County No. ——.
My Commission Expires March 30, 1954.


**Credits**

First cover, James W. Fosburgh; second cover, Charles E. Baker; page 2, Gerald Rider; pages 1, 3, 4, 5, 11, 16, 17, 26, 27, 29, 30, H. Wayne Trimm; 6, 7, 8, 9, 10, 15, 31, Nick Drahos; 12, George H. Lesser; 13, 19, Clayt Seagears; 20, 21, 22, 23, David G. Allen, Nick Drahos; 24, Adele Erisman; 33, Jan Morgan Studio; 34, Staten Island Advance; fourth cover, N. Y. S. Museum.

The Inside On The Outdoors Series

# A WOODSMEN'S FIELD DAY - or bulging biceps vs gallons of gas

USUALLY the *Inside on the Outdoors* series tries to wrap its bimonthly 1,200 words around Flora or her foot-loose kinfolk, Fauna. But this time we visit the annual Woodsmen's Field Day at Tupper Lake, a king-size village in the Adirondacks which still owes more of its life's blood to the lumber industry than to the resort business. And Tupper really trades with a tourist or two, too.

These field days are sprinkled around the country wherever there are woods workers—Galeton, Pennsylvania; Lake Dunmore, Vermont; Rhinelander, Wisconsin; Rolla, Missouri. They're called Lumberjack Roundups, Logging Congresses, Lumbermen's Carnivals, Birling Fairs. In Nova Scotia the annual Guides' Contest helps choose the top all-round birlers, axemen and sawyers for the winter circuit of big sportmen's shows.

But this one at Tupper is unique. Sponsor is The Woodsmen's Club, with headquarters at Old Forge where it provides "comfortable beds, good meals and recreational facilities at moderate costs for woodsmen on vacation or who are injured." The Club owns lots in several Adirondack cemeteries where it buries unattached homeless woodsmen.

It seems that another moving light of this Field Day is the Rev. Frank A. Reed of Old Forge who truly is the woodsmen's Sky Pilot. He's editor of the *Northeastern Logger Magazine* (which has just completed its first year) and he has a special page in each issue. This page is graced by a woodsmen's prayer:

"O God—Give us wisdom and strength that we might labor effectively to provide pulpwood and logs for the daily use of our fellowmen.

"Grant that we might have a deep appreciation of the forest in which we labor; of the great wealth of its resources in terms of lumber and paper products; of its value in controlling the supply of water in the nation's great watersheds; of its place in providing a home for birds and animals, and its great beauty. Help us to use it wisely for the welfare and happiness of people in our own and coming generations—Amen."

The philosophy in that modern lumberman's prayer is, we think, significant—and we thought that you should know it.

We found out that this Woodsmen's Field Day was a lot more than a carnival of sharp saws and bulging biceps. It put the focus on the forest and the economy of the land it serves. It brought together several hundred assorted lumberjacks, forest operators, loggers, forest managers, forest fire specialists, forest nurserymen, machinery and equipment salesmen, wood products manufacturers, safety experts, watershed technicians, rangers, logging engineers, mill operators, skidding-horse traders, forest economists, wood processors, truckers, bankers and a couple of thousand spectators, mostly summer people who probably hadn't realized that the forest produced so many complex problems of growth, protection, use, harvest and manufacture.

All this rubbing of shoulders made possible shop talk between all kinds of specialists. We were curious about the topics. So we listened in on many groups. The themes varied of course but they all added up to the same: How to cut costs between the tree stump and the consumer in order to make profitable the growing of more and better trees.

We asked one big forest operator from another state what this added up to. He said actually it was the key to forest abundance.

"I've finally decided," he said after some thought, "to produce more trees."

To this we expressed surprise that the decision shouldn't have been a matter of course and that he hadn't started his forest replacement program a long time ago.

He picked up a chain saw and said, "This is one of the things that helped me decide. It's like this. When I can cut my costs far enough so that the value of my timber cut and to market will be in line with what the consumer will pay for the processed stuff, then it'll be profitable for me to grow more timber." "And," he added, "don't think that the consumer *has* to buy stuff made from wood. Wood, it's true, is indispensable for a lot of products. But the list of substitutes swells the advertising in every trades magazine. And some of those substitutes are pretty doggone cheap. My forest land is my business, just like a dairy farm is somebody else's business. Farmers will produce more cows only when they can profit by their products. And, brother, don't think the public won't buy substitute milk products when they're cheaper—and if they could be as good."

"Anyway," he wound up, "I've decided that new equipment, new skills in uncovering new wood products, new techniques in forest management and stuff like that will keep me in business. So I'm starting to grow more trees."

He put the chain saw down—gently.

We went off to take a new look at a great array of logging machinery, the display of which was a substantial part of the proceedings.

These were the new tools of efficiency to cut costs. The lumberjack *no longer works by the hour*—but by his *output*. So he has his chain saw or a bow saw and even, maybe, his own metal skids for work on the slopes.

The logger may have a skidding-horse team or two, but today's camp barns are garages with tractors and arches and all manner of power loaders. And these were the things the operators were looking at while the crowd watched mere man-power at work in the competitions.

True, the crosscut and the bucksaw contestants, the choppers and the skidding-horse jockeys were muscular men. All woods workers come to be. But it seemed to us that the biceps, by and large, weren't as bulging as they used to be before the gas can replaced the whetting stone in the woods.

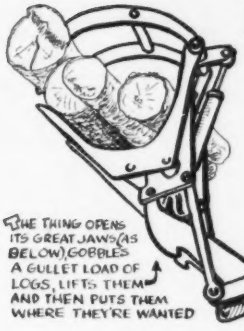
So we took a new look at all the gas-driven monsters panting around in the Tupper Lake ball park. And we came away with a new concept of gasoline, for it seems that this is the stuff that'll grow trees. Why not—after all, it's still part of the Earth.

—CLAYT SEAGEARS

# A WOODSMEN'S FIELD DAY

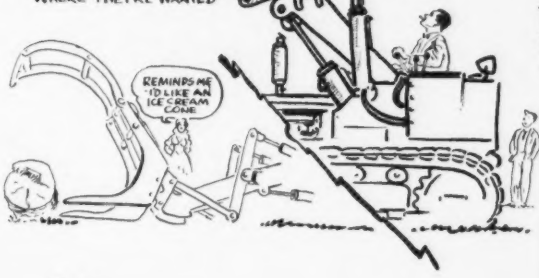
## SOME RANDOM SKETCHES OF THE ANNUAL EVENT AT THE ADIRONDACK VILLAGE OF TUPPER LAKE

TUPPER LAKE GREETED THE WOODSMEN WITH THIS 15-FT. BANNER

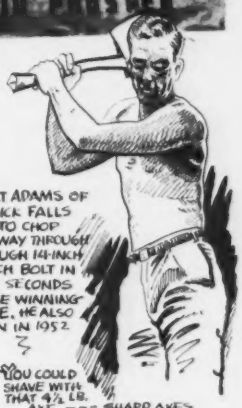


THIS PREHISTORIC MONSTER—COME TO LIFE IN STEEL—IS A SKID SHOVEL—OR LOG LOADER. LOGGING EQUIPMENT DISPLAYS WERE A FIELD DAY FEATURE—LOGICALLY ENOUGH—FOR INCREASINGLY EFFICIENT LOGGING TOOLS MAY CUT COSTS SUFFICIENTLY TO PROVIDE ADDED IMPETUS TO THE GROWING OF MORE TREES. THAT'S RIGHT

THE THING OPENS ITS GREAT JAWS (AS BELOW) GOBBLES A GULLET LOAD OF LOGS, LIFTS THEM AND THEN PUTS THEM WHERE THEY'RE WANTED



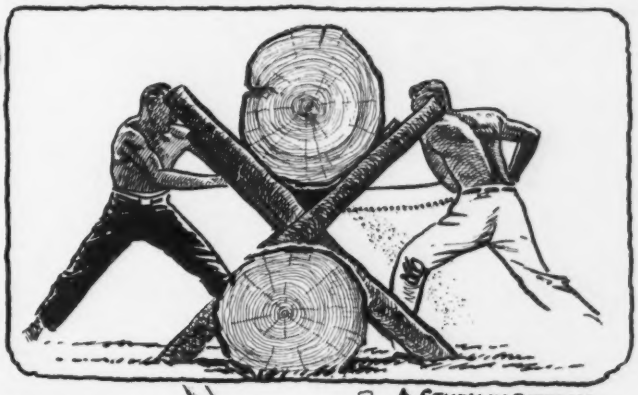
EARLY ADIRONDACK LOGGING DAYS WERE RECALLED BY THIS OLD STAGE COACH—(PARKED AFTER THE PARADE)—WHICH ONCE RAN BETWEEN AUSABLE FORKS AND PAUL SMITH'S



WALT ADAMS OF HOSKICK FALLS SET TO CHOP HIS WAY THROUGH A TOUGH 14-INCH BEECH BOLT IN 46½ SECONDS—THE WINNING TIME. HE ALSO WON IN 1952.

YOU COULD SHAVE WITH THAT 4½ LB. AXE ---

SHARP AXES HELP AVOID ACCIDENTS



WINNING HEAVY CHAIN SAW TEAM (MARCEL AND ARMAND PINARD OF LONG LAKE) CUT ¾ CORD OF PULP IN 2 MINUTES! AT LEFT—CONTESTANTS IN THE 1-MAN SAW EVENT CORD UP THEIR CUT. MARCEL WON THIS, TOO. LUMBERJACKS NO LONGER WORK BY THE HOUR—BUT BY THEIR OUTPUT—CHAIN SAW STUFF.

STUDY IN RHYTHM

THE WINNING CROSS CUT SAW TEAM CUTS FIVE SECTIONS FROM A 14-IN. HEMLOCK LOG IN 2 MIN. 49 SEC. THESE BOYS ARE FROM HARDWICK, VERMONT

FANCY AXE WORK MARKED THE FELLING CONTEST. SAFETY FACTORS CALL FOR AN UNDERCUT ¼ TO ½ THE TREE DIAMETER WITH THE FELLING CUT 1 TO 4 IN. ABOVE BOTTOM OF OTHER. TREE IS NOT CUT CLEAR THROUGH SO THAT "HOLDING BRIDGE" REMAINS TO GUIDE FALL. TREE WON'T KICK BACK OVER STUMP.

OBJECT IS TO DRIVE PEG WITH FALLING TREE STEM

FRIEND ASSISTS WITH SOME BODY ENGLISH

FELLING CUT

UNDER CUT

CLAW GAGERS

THAT THING IS A HAME COVER—AND IS ABOUT THE SAME THING TO A SKIDDING HORSE JOCKEY AS HANDLEBAR FOX TAILS ARE TO A CYCLIST
GIT-GIT-GIT-GIT
GI----
I GUESS HE GOT
SNAP
BILL PETTY

THE PULLING TEAM CONTEST PRODUCED A WINNING PAIR FROM WINCHESTER, N.H., WHICH SKIDDED 5 TONS WITH EASE—AND COULD HAVE DRAGGED MORE IF THEY'D HAD TO

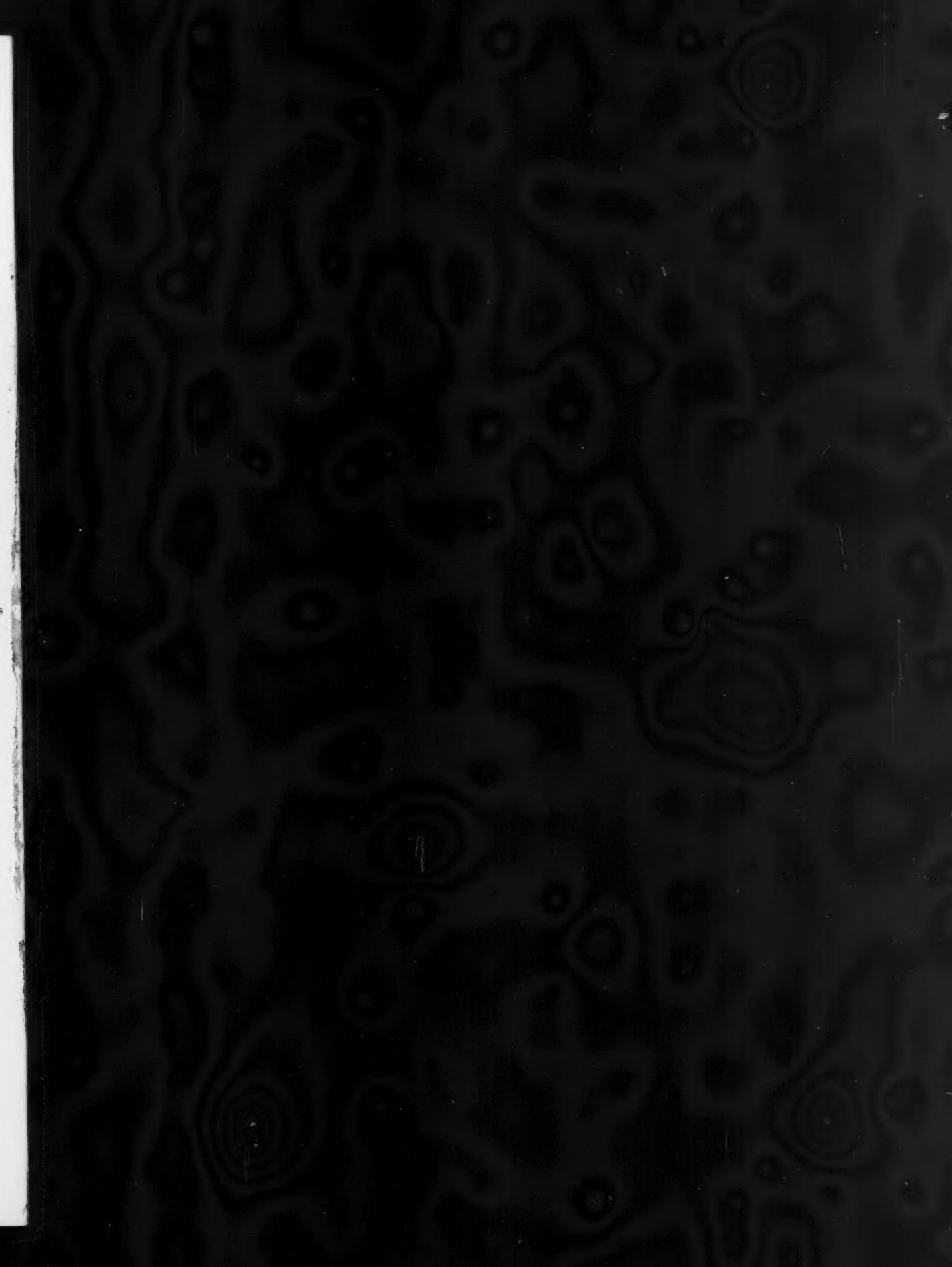
*Courtesy*
*N. Y. S. Museum*

**GOLDEN EAGLE**

Aquila chrysaetos
(Linnaeus)

*1/6 nat. size*

**BALD EAGLE**

Haliaeetus
leucocephalus
(Linnaeus)
Immature

*1/6 nat. size*